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ORIGINAL COMMUNICATIONS.

OBSERVATIONS AND PRACTICAL REMARKS ON THE NATURE, PROGRESS AND OPERATIONS OF THE VENEREAL DISEASE.

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(Continued from Nos. 59 and 60, vol. xv.)

THE second class of doubtful cases of syphilitic infection is that of married persons, who in cohabitation, experience certain symptoms apparently characteristic of that disease. A great attention and a correct judgement, are highly important in cases which impose the responsibility of cruel and irreparable evils. Indeed, should this foul complaint be erroneously supposed to exist in the connubial couch, a physician would blast forever matrimonial happiness, in a moral as much as in a physical point of view. And if on the contrary, he leaves the contaminated couple in an undeceived state of security, he entails deformity and various horrid effects of disease on an innocent offspring,

while he exposes unfortunate or culpable parents to a fatal aggravation of an incessantly interchanged virulence. It has been the fate of experienced practitioners to have undoubtedly witnessed, more than once, those shocking results of ignorance and neglect, which a sense of modesty or shame scarcely permits to be disclosed to more than one judge, thereby rendering them more irremediable. This practical subject, therefore, most conscientiously calls for our attention and well-conducted inquiry.

The doubtful symptoms which possibly may effect married persons when they have some grounds for suspicion, should be arranged in different orders, in order to assist the reader in discriminating those which are less equivocal than the others. These are in the male, a kind of small and ephemeral pustules on the glans penis, which are formed without previous pain or swelling; they are yellow or white, much like vesicles of the itch. They soon open and discharge some thin matter, and without the help of any internal applications, may heal up in a few days. Excoriations also, are frequently observed on the part of the prepuce that unites to the glans, or on the external or outer edge of the same, with small red pimples. This kind of erithema is sometimes painful, and then is not unlikely attended with small indurations of the inguinal glands that remain stationary. To these we add the occurrence of small and soft warts, grown like moulds, but which could not easily be made to bleed by pulling nor by friction. Other persons are subject to a periodical gleet of an inoffensive nature with inconsiderable mucous discharge. This may receive a degree of foul colour from preceding fatigue of body, from excessive venery, and also from intemperate habits, and is of course effectually counteracted, by rest and antiphlogistic diet.

In females, doubtful symptoms will take place in leucorrhœa, attended with excoriations of the parts, itching and scalding of urine. When pregnant, the same may continue with aggravated characters, of great pressure and fulness on the pubis, and even with discharges of thick and purulent matter, and a progressing disorder

to the fundament, under the shape of excrescences, tumours, and swelling of the groins. In short, women partake of every possible equivocal symptom, in common with the male.

More alarming, but equally doubtful, and perhaps innocent signs are to be noticed. A frequent return of sore throat, pharingitis and ulcerated tonsils; affection or discolouration of the nails, pains in the bones, and various eruptive maladies, exostoses and even ulcers, caries of bones, funguses and excrescences. In a general point of view, it must appear almost incredible, that such a train of symptoms could singly or simultaneously be contracted by married persons, who live otherwise free from danger, without syphilitic infection. This is, however, what we must prove, stating on the other hand, by what collateral indications, it is justifiable to admit with them the existence of a constitutional virus.

In order to avoid repetitions, it is necessary to refer our readers to the doctrines and principles which we have explained in the two preceding parts of this essay, Nos. 59 and 60 of the Medical Repository, as ascertained and adopted by Astruc, Hunter, Swediaur and others, respecting the various modes of propagating the syphilitic virus, and more especially of its existence as a disease of *venereal action*, and of *venereal disposition*. The same are consistently applicable to the subject now under consideration, and from them we may derive the following aphorisms, which being connected with the most problematical cases, will not fail to afford theorematic deductions and inferences towards the acquisition of truth.

1. If one of the two parties was still affected before marriage with the effects of *venereal action*, such as gonorrhœa, chancres and bubo, the same will, by cohabitation, be communicated to the other, under the shape of some of the primary symptoms in the parts, agreeably to that principle: *et qua parte contrahitur primo se manifestare solet.*

2. Should the injured party have experienced an entire cessation of said symptoms, it must then be ascertained that a reasonable space of time had elapsed before marriage, lest a palliative cure only had been effected by repellent medicines, by change of season or

climate, from cold to warm, transforming a disease of *venereal action* into a disease of *venereal disposition.*

3. If a person afflicted with symptoms of *venereal action*, has long remained without proper treatment, or has received but an imperfect one; and if the same is under certain circumstances of constitution described in the first part of this essay, then the disease may transform itself into a confirmed lues or *venereal disposition* the symptoms of which we have enumerated already, and as these may be slowly progressing, marriage may unfortunately take place, in this period of delusion, and the following must be the result.

4. We have proved that a person constitutionally infected with syphilis may be free from external ravages of ulcerations, and other kinds of sores, while the disease is more concentrated, and internally active in the lymphatic system, in the bones and periostæum, &c. Now we must conclude that in this case, the partner of the connubial couch cannot escape, in time, from receiving the infection, although there is not any determined point of contact, by heat and perspiration, which evolves the virus and exposes it to absorption. Hence the declaration of Astruc, which we must repeat. *Afficit corporis habitum, unà cubando.* "In this kind of *gazeous* infection, have I said, syphilis offers an inverted march of symptoms; it firstly affects the stomach, head and limbs with pains, creates fever, paleness, and breaks out at last in sores, blotches, nodes, &c." and these effects are so many more criteria and means to trace the origin of a doubtful constitutional syphilis.

5. Another law of constitutional virus is, that by its progressive diffusion throughout the system, it occasionally may, and commonly does re-appear on the parts where it first originated. Hence chancres may break out again on the glans penis, and secondary buboes on the groins; and thus a disease of *venereal action* is newly created, succeeding to that which was constitutional only, and equally contaminates the unfortunate couple, unconscious of their own situation.

6. When the constitutional disease is marked by the external effect of sores in the mouth, ulcers in the body, blotches, pustules, &c. its infectious progress by coha-

bitation cannot differ from what it is now stated, but by being more rapid, and by the direct and natural effects of more immediate contact.

That any suspicious case of syphilitic infection among married persons can by the application of the above rules, come to light and disclosure, I need not further illustrate, provided want of candour of parties concerned, and other circumstances should not make it impossible to institute an inquiry equal to the task. More ample evidences can be derived also from the difficulties of child-bearing and parturition, if they took place, as we have previously stated, the inevitable consequences of death, deformity, at least of complicated disease of an offspring contaminated by parents.

But if no impure source can be detected of the alleged complaints, let a physician bear in mind that there are a great many possible causes of those accidents and local injuries which resemble syphilis, before he could with justifiable reason attribute them to such loathsome and stigmatizing disease.

I shall not premise any pathological theory to prove why symptoms resembling syphilis might result from innocent morbid causes, among married persons. But facts and experience demonstrate *Firstly*, that if the glans penis is habitually covered by the prepuce, it remains endowed with a particular degree of tenderness, and consequently subject to excoriation, or erysipelatous affection, whenever it is put in contact with any kind of acrimonious or morbid secretions; and that this accident may frequently take place, it must appear obvious to those who are aware of the complicated functions of the female organs of generation.

Secondly. There is a long range of cutaneous affections to which many persons are constitutionally or periodically subject: others are accidental, or originating from scrophulous habit; and a very remarkable disease in this country deserves particular notice by its obstinacy and incurability, that is, the *salt rheum*. *Psora diffusa*, &c. These eruptive affections are difficult to remove, notwithstanding their great mobility from one part of the body to the other, and yet are frequently effected by simple external applications. Hence it is not uncommon to

see them transferred to the parts of generation in either sex, when they constitute effects much resembling syphilitic symptoms. To give a proper idea of those deceptive accidents, from whatever cutaneous disease they may arise, we will consult Rob. Willan, Genus I, page 98, on the subject of *prurigo scroti* and of *prurigo pudendi*. "These," says he, "might be easily mistaken for syphilis, especially in women who experience by it a tumefaction of parts, and a distressing excitement of venereal sensations. The appearance of aphthæ on the labia and nymphæ is by no means unusual. From intercourse with females under these circumstances, men are liable to be affected with aphthous ulcerations on the glans and inside of the prepuce, which often excite an alarm, being mistaken for chancres.* Women after the fourth month of their pregnancy often suffer greatly from the prurigo pudendi, attended with aphthæ. These, in a few cases, have been succeeded by extensive ulcerations, which destroyed the nymphæ, and produced a fatal hectic."

The same writer offers other interesting observations communicated to him by Dr. John Sims, and among others, "that he had seen small, hard, distinct tumours within the labia, which ulcerated and discharged a very fœtid matter, being not distinguishable from that of chancres; yet the event as well as the character of the parties, have proved that the ulcerations were not venereal. It is therefore improper, adds Willan, to decide hastily on such appearances, since through want of caution in this respect, the peace of many families may be unnecessarily disturbed."

The author, in fine, attributes to similar innocent causes, many cases of funguses and excrescences which may grow on any point from the os pubis to the sacrum."

Thirdly. Men who have experienced frequent attacks of gonorrhæa, remain sometimes by improper treatment or conduct, exposed to obstinate or habitual gleets, or periodical discharges which are always renewed or aggravated by fatigue, by intemperance, and

* In the first number of a late publication called the New-England Journal, page 68, we find the remarkable fact, of a seaman who frequently contracted ulcers or sores on the penis, by sexual intercourse, although they were not venereal.

by excessive indulgence of sexual intercourse; and this is as often removed by a contrary mode of conduct and by antiphlogistic remedies. A local disease in the urethra of the prostate gland, a stricture, &c. can easily account for the troublesome and frequent return of that kind of discharge. Chopart in his treatise "*des maladies des voies urinaires*," mentions that of the internal membrane of the bladder, the function of which is to secrete a mucus immiscible with the urine; and which being morbidly increased or vitiated, escapes and constitutes sometimes an incurable running. An informed reader must be aware that we could point out many more sources of the same affection; one only, proving what were the consequence and singular effects of distention and rupture of some vessel, we will relate in a language better adapted to decorum and delicacy.

Virtute quidam præditus atque ætate maturus vir, nuperrimé uxorem duxerat hancce virginem, juventute, jucundis moribus, pulchritudineque præclaram. Illum, lapsis paucis post diebus, mihi accersierunt ambigua fides nuptæ, atque forsan miseranda lues quæ jam jam urethram polluebat. Proh pudor! paululum intumescebat glans penis; dimanarat cruor atque magnam puris tabem indusium declarabat!! Gonorrhææ virulentis instar ardebat urina meatus et dolebat erectionis influvio..... Percunctatus præmonet idcirco innocuam invenire conjugem cujus labia pudendi atque vaginam exploraverat manu visuque, et nulla aderant vestigia luis. Gaudeo quod adhuc prorsus non interfuerint objurgationes. Meminisne, aïo, ante ultimum coitum, voluptate orbatum, quamvis mentulosum et ardore furentem tenebat amor tu sponte illam bis ter quaterque forsan concussisti? quibus aperta mente, confessis; Hinc inde miseriæ, pergo; impar tate vi atque forma corporis rupisti vasa cavernosi et per urethræ lacunas magna distillat suppuratio; solve metus; stat conjugis innocua virtus; quæ te purâ solum nocte cubantem jubeat, atque quiete, balneo, cervisiæ potu jejunantem arceat, pœnas daturus, sævo pro amore.... et ignoscendus.....ille per decem circiter dies illæsus evadit.

Fourthly. *Leucorrhæa* or fluor albus, is another equally frequent and pernicious cause which often may com-

municate local affections to the male by intercourse, while it remains in the female a source of serious and gradually fatal consequences. If it is important that a physician should not be deceived by symptoms resembling syphilis, it may not be irrelevant to say something respecting the æthiology of those female organs, the morbid state of which may induce us to erroneous inferences. Astruc was the first who explained the manifold order of the vascular system, of the uterus, lymphatic, lacteal, venous and arterial. Their mouths simultaneously open and let loose the accumulated animal fluids, and this mixed discharge is called menstruation. Its irregularity therefore is mostly attended with fluor albus, owing to a premature opening of the first order of vessels or of the obstructing cause which retards their secretion, until the blood vessels have been fully discharged, and in either case, there will be a period of leucorrhœa. We are not here to account for what reason the moles movenda of circulation is thus more accelerated in the sanguiferous system than in the lymphatic or vice versa : it suffices to point out that morbid state, which if it is not counteracted must be incessantly aggravated and constitute an uninterrupted uterine atony and a great laxity, or with all those grades, a constant discharge, ulcerations, indurations, even cancers, &c. In this ultimate effect, the fluor albus, from its bland and benign quality, is altered into an acrimonious sanies, perhaps purulent matter, not altogether free from some degree of virulence, causing great irritations, excoriations of the female organs, and even of the male, by repeated contact.

Should it appear to a physician that an irregularity of menstruation could not be the cause of this exhausting disease, while the usual period of red discharges takes place, still he may be deceived, since there exists so far an irregularity, which sets apart the evacuation of two different fluids, while it is the intention of nature, in perfect health, that they should escape simultaneously. He may however look for any debilitating and relaxing circumstance, which has probably been the primordial cause of that irregularity ; 1st, in alvine obstructions and costiveness ; 2d, in frequent exposures to cold or mois-

ture; 3d, in nervous irritability of constitution more particularly excited by grief, and other moral affections, and by abuses of physical powers, or by private solitary practices; 4thly and lastly, in accidental abortions, difficult parturitions, and in improper management during confinement; one only of those causes is sufficient to induce direct debility, and consequently leucorrhœa, or an uterine catarrh, the bane of female health and beauty, and the source of pernicious local affections, such as we have shewn to resemble syphilitic complaints.

Fluor albus is a frequent attendant of pregnancy, especially towards the period of parturition. I have seen it, in one instance, so abundant, as to have been mistaken for the rupture of the membranes, nearly two weeks before labour had really commenced; in another, it existed a month with marks of purulency, before the birth of a dead and much deformed fœtus; the membranes were entire, when I opened them myself to remedy a bad presentation. I have been informed by Dr. V. S. of a grievous case of fluor albus during pregnancy, which unhappily had been held up by a wife against her husband, as the cruel proof of his inconstancy, until he undeceived her opinion of the alleged injury, which proved to be only a morbid accident.

Collateral circumstances cannot fail to assist our judgment in those cases, if we attend to the unerring results of experience: for, irritation, local pains, excoriations, &c.* are necessarily preceding symptoms of a

* Abernethy justly gives a gradual and progressive aggravation of symptoms as a characteristic of constitutional syphilis.

In this, and in the former parts of this essay, the reader may have observed, and perhaps with surprise, that I did never advert to the doctrines nor to any of the numerous cases of Abernethy on pseudo-syphilitic complaints which that author ascribes to morbid constitutional poison. But unless he had substantiated their nature, it appears to me difficult to admit such idea; for if symptoms resembling syphilitic infection were resulting from ordinary morbid secretions, not one in the course of life could escape being affected with them.

Some other cases I find, he describes as pseudo-syphilitic, which I think were real ones, owing to a circumstance which the English writer was not aware of, and which I shall prove to my readers, to wit, that very virulent syphilitic cases have been, and really can be spontaneously cured, without remedy. But more of that anon.

recent case of syphilis, but they are on the contrary, succeeding effects of confirmed and much aggravated attacks of fluor albus. The first disease, as soon as it has operated in the part which originally contracted it, if not cured, must affect the constitution; but this remains almost unimpaired at the earliest and succeeding periods of fluor albus, unless it should result from ulcerated uterus. Moreover, should this disease after all be an attendant of constitutional virus, as is truly possible, must it not have been preceded at any past or recent period, with the characteristic symptoms of syphilis, in whatever mode it might have been introduced into the system?

There are diseases which, without resembling syphilis, are more frequently connected with a venereal constitution. Their description, with that of all chronic and lymphatic diseases, in persons of either sex, who may have been exposed to impure contact, and of old sores and caries of bones, from doubtful causes, shall in the next number terminate our enquiry.

(To be concluded in our next.)

A CASE WHERE THE POISONOUS EFFECTS OF OPIUM WERE COUNTERACTED BY ALKALIES. BY SAMUEL AKERLY, HOSPITAL SURGEON, U. S. ARMY.

BY a relation of the following cases, the operation of alkalies in counteracting the soporific and poisonous effects of opium, will be shewn in a twofold point of view.

1. When opium has been swallowed, and the stomach in consequence has lost its excitability, an alkali will restore it, and the operation of other remedies may produce a cure.

2. When combined with an alkali, a large quantity of opium may be administered, without a deleterious, and but a slight soporific effect.

Poverty and a bad husband induced one Mrs. Rodgers, in the prime of her days, to seek relief in prostitution. Finding by sad experience that this mode of life was wretched and precarious, she attempted to end her miseries by suicide. Twice she sought to drown and

once to hang herself. Failing in these she had recourse to laudanum.

On the 30th Aug. 1809, she declared her intention and showed the phial, which contained part of the draught. No attention was paid to her situation until in the course of the day, she was observed to be very drowsy, sleeping wherever she sat down. In the afternoon finding the first potion not speedily effective, she possessed resolution sufficient to swallow the second. Before evening she was found in the yard of the house overcome by the laudanum, and so stupified as not to be awaked. The neighbours from curiosity collected around, without a disposition to assist in removing her or administer aid, as she was known to be a poor abandoned creature. In the evening several females removed her into the house, and laid her on the floor. The general impression then was that the patient must die. Thus she lay till eleven o'clock at night, when some humane person, more urgent than the rest, insisted that a physician should be called.

I found the patient stretched at full length, lying on the floor, and so stiff that she was raised on her feet without bending a joint. In this situation her head was drawn backwards in the position of opisthotonos. The eyes were fixed and the lids closed. Her respiration was interrupted; pulse slow, oppressed and of moderate fulness; skin cold, particularly the feet and legs.

Finding no ability in her to stand, and no possibility of keeping her in motion by the assistance of unwilling spectators, I proposed the remedy of the switch as successfully used in several instances, (Medical Repository.) Although no one appeared to take any interest in the sufferer, when this method was offered, all cried out against it, and the objections were so urgent as not to be conquered.

Smart blows were then applied on the feet and hands with a shoe, and the limbs and body rubbed, till all who felt disposed to assist became fatigued. The laudanum had been taken so long that an emetic did not promise to remove it from the stomach. But another indication presented; that of rousing the patient by efforts to vomit, and inducing perspiration.

One drachm of ipecacuanha was mixed in an half pint of water. The slowness of respiration and the firmness with which the jaws were closed prevented the emetic draught being swallowed under ten or fifteen minutes. After waiting some time, it was found to have no effect, when fourteen ounces of blood were taken. Vomiting began immediately after the blood was stopped flowing, but the emetic effect was not proportionate to the quantity of ipecacuanha swallowed. A second drachm was given, and its operation increased by warm water in small quantities, it being difficult to get much down at a time. The vomiting was not greater than would be produced by a moderate portion, although two drachms had been swallowed. The patient was well covered, and by the efforts to vomit, a perspiration began to break out, and the stiffness of the joints to relax. There was an evident alteration for the better, and larger quantities of warm water were given. But still it did not operate with sufficient force, and at length the water ceased to assist the ipecacuanha, when the former symptoms began to recur.

The emetic thus failing to have the desired effect to its fullest extent, the soda was the next thing at hand with which I was provided. It was given in a diluted state, and a tea spoonful produced the most violent efforts to vomit, though nothing was raised, except the warm water which had been occasionally given. The patient was thus kept vomiting for an hour during which time she lost four ounces of blood by the loosening of the bandage. The original intention of the emetic was now produced, and the indication completed; for the joints again relaxed, and continued so, and perspiration broke out freely. She also became so sensible as to raise up her head and drink warm water to relieve her retching when she made efforts to vomit.

Thus after her great exercise at vomiting, she was left in a fair way of recovery, which was completed the next day. Three hours were spent in attention to the patient. By the best information that could be collected she had undoubtedly taken two ounces of laudanum. The first, some time in the forenoon, and the second, between four and five o'clock in the afternoon.

I was called twelve or thirteen hours after the first, and about six, after the second ounce had been swallowed.

The following recapitulation will place the remedies in one view, in the order they were given:

1. The blows and friction unsuccessfully applied.
2. One drachm of ipecacuanha which had no effect.
3. Venæ-section ℥ xiv. which produced vomiting.
4. One drachm of ipecac. which produced additional vomiting, assisted by warm water.
5. Accidental bleeding ℥ iv.
6. Saturated solution of soda diluted with water, and given by the tea spoonful, which produced violent vomiting, perspiration, and the desired intention which effected the recovery.

The soda which was given and had such a happy and desirable operation, was certainly the means of saving the unfortunate person. When others had failed, the patient was sinking into the same lethargic state in which she was found. The soda used in this case was not the carbonate, but a bad preparation of it, such as is most usually sold from the shops. It was not freed from potash; for it was observed to deliquesce previous to its preparation in the form of solution. Its modus operandi in this case was by restoring the excitability of the stomach, which had been exhausted by the opium.* When this was effected the ipecac. had a full operation. The same effect may be produced after the operation of other poisons, as has been observed in stramonium and arsenic.†

The second position adopted above is illustrated by the following case:

In 1806 and 7, while I was resident at the New-York hospital, as House Physician, the Lunatic Asylum was then unfinished, and the maniacs were under my care. Among that class of patients was a young man given to melancholy, with an inclination to destroy himself by poison for which he would frequently ask. Being occasionally allowed the liberty of walking about the house, he had become acquainted with those attending on the

* Med. Repos. Hex. 1. vol. v. p. 36.
† Ibid. p. 37 & 43.

shop, and had learned to distinguish the tincture of opium. When an opportunity offered, he procured and secreted a two ounce phial, nearly full of laudanum liquidum, and was detected in retiring. The apothecary commenced a search to which he made violent resistance. The noise which ensued drew my attention. I appealed to a nice sense of honour, with which I supposed him to be actuated, in order to learn what he had concealed, without using force. This was accomplished, with a promise upon honour to return it. The liquid was supersaturated with the carbonate of potash (sal. tart.) and returned; when the melancholic retired to his apartment and swallowed the contents of the phial. The next morning he was called up to walk in the air, and no unpleasant result followed.

A FATAL CASE OF OBSTRUCTION IN THE BOWELS ACCOMPANIED WITH AN ACCOUNT OF THE APPEARANCES UPON DISSECTION. BY THOMAS COCK, M. D. PROFESSOR OF ANATOMY, SURGERY AND PHYSIOLOGY IN THE MEDICAL INSTITUTION OF THE STATE OF NEW-YORK, AND OF THE FACULTY OF MEDICINE OF QUEENS COLLEGE, N. J.

MRS. F—— about fifty years of age, of a delicate habit, had been for many years subject to considerable uneasiness about the region of the stomach, but not to such a degree as to make her consider it worth calling in medical advice.

On or about the 4th of April last, she was considerably indisposed with what she and her friends supposed to be dysentery, and which she attempted to relieve by small doses of laudanum with the essence of peppermint. On the night of the 6th she was seized with distressing sickness at stomach and vomiting, accompanied with extreme pain in the abdomen and constipation of the bowels; all which she charged to the remedies which she had been taking. These complaints continued to increase until the morning of the 7th, at which time she first called for medical assistance. A large dose of laudanum was immediately prescribed, and she was further directed to take an anodyne mixture com-

bined with a proportion of prepared chalk, at short intervals, until the pain should be relieved.

These remedies failing to produce the desired effect, the pain, &c. still continuing; in the afternoon an epispastic plaster was applied to the scrob. cord. and she was directed to take pills of calomel with opium every three hours, but without any relief. On the next day the symptoms continuing much as before, with a constant sickness at stomach, she took in addition to her other remedies, a solution of the carbonate of potash with the citric acid, in the state of effervescence. No evacuation taking place from her bowels, and her pain being somewhat alleviated, the calomel was increased in quantity and the opium lessened. A large epispastic plaster was also applied to the abdomen. The day after which, the third day of our attendance, her complaints continued much as before, but aggravated by a very troublesome hiccough. Her remedies were continued as before, only in place of an ordinary enema, which she had been in the use of during the preceding days, she now had a solution of the sulphate of soda as an injection with some little relief; not sufficiently so however as to give much encouragement as to the event. In the night had frequent dysenteric evacuations with tenesmus; for which on the day following, the 4th, she took an anodyne injection, and with some relief of that particular affection. In addition to the calomel which was continued in doses of five grains every two hours; she took repeated doses, at short intervals, of a solution of the super-tartrite of potash in a strong decoction of senna, sweetened with manna, all to no purpose; her complaints still continuing to go on as before.

On the 5th day, with no abatement of her other complaints, she had a return of her tenesmus, and was again relieved by an anodyne enema. She still continued her calomel, and in place of the super-tartrite of potash, she had the sulphate of soda, in the decoction of senna with manna.

The sixth day commenced with an increase of all her alarming symptoms. The pulse became small and quick. She had profuse sweatings with constant hic-

cough; she had some further antispasmodic remedies administered with asafœtida, &c. In the afternoon she died.

The peculiar obstinacy of this disease, its regular progress to its fatal termination, notwithstanding the early and constant application of such powerful and generally efficacious remedies, made it desirable that the state of the bowels should be ascertained. A proper representation made to the good sense of her affectionate friends, obtained their consent to have the body opened, which was accordingly done in the presence of Dr. Seaman, and Dr. Post, who had also attended her during her illness. The following were the APPEARANCES DISCOVERED BY DISSECTION:

Upon opening into the cavity of the abdomen, the peritoneum shewed evident marks of inflammation, as did also the small intestines.

By tracing the bowels from the stomach downwards, we found lodged in the ilium, before its termination in the colon about twelve inches, a firm substance, which appeared completely to obstruct the intestine; it was moveable with ease upwards, but the bowels was so much contracted below that it could not be forced downwards. Above the obstruction, the intestines were distended and in a considerable degree inflamed; below, they were contracted and empty. About the seat of obstruction a commencing mortification had evidently taken place.

The substance forming this fatal obstruction, by acting like a pea valve upon the contracted portion of the ilium, appeared in colour, shape, size, and to the feel, very much like an over-ripe pickled Madeira nut. It was so dense and tough, that even after it had been dried by keeping eight or ten days, it was with difficulty that we divided it through its longest diameter with a metacarpal saw. The smooth cut surfaces shewed it to have been formed in concentric layers; which were hard in proportion as they approached the centre. The centre itself and the layers nearest to it were evidently crystallized, its outer lamella comparatively friable. This substance was not chemically analysed. It was however ascertained to be very combustible.

Observations, and the result, of experiments relating to the Preparations of Quicksilver. Read before the Counsellors of the Massachusetts' Medical Society, at their meeting, June 6, 1811. By Richard Hazeltine, M. B. & M. M. S. S.

Prefatory.—When the following communication was read before the Counsellors of the Massachusetts' Medical Society, the writer was assured by one of the Committee of Publications, "that it would undoubtedly be printed;" but as the publications of the society are made at distant and uncertain periods, and as the writer deems the information contained in the communication, respecting the mercurial preparations to which it related, interesting at least, in an economical view, he thinks proper to give it publicity through a different channel.

To the Counsellors of the Massachusetts' Medical Society.

Gentlemen,

The physician, who is interested as he ought to be, in the efficacy of his prescriptions, in the welfare of his patients, and consequently in his own improvement and professional fame, will not be indifferent with respect to the genuineness and purity of the medicines which he prescribes, especially of those of the more active kinds, and on which he depends for certain and specific effects; he will therefore, esteem an accurate acquaintance with the characters and qualities of medicines, no less important than a knowledge of the nature of diseases; for it would be of little avail to himself or his patients, were he able ever so promptly to discriminate diseases, if he were at the same time ignorant of their appropriate remedies; or whether those which he should think proper to prescribe, were genuine or not.

When I was introduced to the study of pharmacy, I soon perceived that my medical preceptor* prepared certain forms of quicksilver in a manner quite different

* The late Dr. Philip Canigain, of Concord, N. H.

from the *formulæ* given in the dispensatories for compositions of the same name; and as I constantly observed his forms to possess all the power and activity that could be expected of any form of the kind prepared according to the books, I have, for the most part continued to adopt the same forms in his way; but as uniformity in the preparation of medicines is desirable, and as I was disposed to acquaint myself with the comparative strength of the forms of medicines, to which this communication relates, prepared in different ways, I have made some experiments, the result of which and of some former ones, I have flattered myself was sufficiently interesting, to make the substance of a communication to the Counsellors of the Massachusetts' Medical Society.

It will be proper to premise, that my experiments and observations relate exclusively to those forms of quicksilver in which this metallic fluid is combined by trituration, with unctuous, resinous, or saccharine substances, and constitutes quicksilver ointment, plaster, and pill.

I shall not pause to inquire critically, what is the state of the quicksilver in these preparations. Taking for granted, what I believe is now generally admitted and can be incontrovertibly proved, that it is combined with the base of vital air or oxygen, and is therefore an oxyd; for, passing by all the proofs that might be adduced in support of this opinion, I cannot easily conceive that by mere minute division of its particles, quicksilver can become capable of forming such combinations in the living body, as to produce all those changes and wonderful effects, for which it has been emphatically denominated the Sampson of the Materia Medica.

I was early taught that the *strength* of these preparations was to be judged of by their *colour;* and that this characteristic depended wholly upon the *reduction* of the quicksilver;* the more minutely and perfectly this was accomplished, the more intense the *blue colour*, and the more *powerful* the preparation. All this is undoubtedly

* By the word *reduction*, I mean the *division* and *oxydation* of quicksilver.

true. and considering that the facts appear to have been known to some dispensatory writers and physicians, it is astonishing they should have been so much disregarded, or overlooked by practitioners and *pharmacians* in general.†

As the preparation of those forms of medicine, that they may possess sufficient strength, requires considerable labour, more than boys and apprentices are willing to bestow, and men of business can conveniently allow, it cannot be improper to endeavour to ascertain by what means the process may be facilitated; and whether certain articles do not promote the reduction of the quicksilver more expeditiously than others. Various substances have been employed in these preparations for the purpose just mentioned; as, common and Venice turpentine, honey, manna, *oleum sulphuratum*, conserve of roses, hogslard, olive oil and rosin melted together, and mutton suet.

Notwithstanding the plausibility of the experiments and arguments of Mr. Lee and others to prove the contrary,‡ I think it unquestionably true, that the quicksilver in these preparations is reduced to an oxyd, and that the oxygen is supplied from the article with which it is triturated, and not from the atmosphere. I am further disposed to believe, that besides the oxygen which the article must necessarily contain, the next principal requisite is a good degree of viscosity or tenacity, by which the particles of the quicksilver may be effectually kept asunder, when separated by the mechanical action of the pestle, so that they may enter into combination with the oxygen, according to the well known law of mercurial affinity, which requires, "the Attraction of Aggregation to be overcome, before combination or decomposition can take place from the exertion of chemical attraction."

If these opinions be correct, it is obvious from considering their chemical constitution, that honey and turpentine will claim the preference before any other arti-

† I think I am not original in the use of the word *pharmacian*.

‡ Medical Repository, vol. iv. Hex. 1. Mr. J. Douglass' Inaugural Dissertation; Dr. J. Tongue's ditto; Philadelphia Med. Thes. for 1806.

cles for preparing these forms of quicksilver, as they both possess oxygen, and the necessary viscosity, in a superior degree; and I have employed both, though most commonly the turpentine, for preparing all three of the forms.

To attempt to reduce the quicksilver by means of hogslard, or tallow, is, according to my experience in this business, an operation, very laborious and unprofitable. Indeed, if we consider the chemical history of animal fat, and if the rationale of this progress which I have above suggested be founded in fact, it is plain that pure hogslard and tallow, are very improper substances for reducing the quicksilver; I say pure hogslard and tallow, for if these articles have become rancid, it is well known they have also acquired new affinities with respect to the quicksilver, and are better fitted for its necessary oxydation. Gotling, proposed to add a few grains of sulphur to the mixture of fat and quicksilver in order to expedite the progress; presuming that so small a quantity of sulphur as a few grains could not possibly injure the preparation. I have repeatedly tried the sulphur, and found that it speedily effected a change, at least, in the *colour* of the composition, destroying its characteristic *blue;* and it is believed, also, that it impaired its *strength.*

To prepare an ointment that should not prove irritating to delicate skins, I have triturated the quicksilver with the acido-saccharine substance of tamarinds, instead of turpentine, and then incorporated the mass with a due proportion of hogslard, and have found the process succeed very well.

In preparing the pill, I have sometimes employed honey, as directed in the Edinburgh New Dispensatory, for reducing the quicksilver; and have found it answer a very good purpose. I have sometimes been almost ready to conclude that honey is equal or superior to turpentine, in this business. The change wrought in the quicksilver, in the pill, prepared with conserve of roses, is attributed by some to the acid, by others to the sugar contained in that composition. I have no doubt it is owing to the oxygen, which constitutes so large a part of sugar and honey, that these articles are so useful in

preparing the pill. It is conjectured " that experiments fairly made would sanction the manna in preference to any other substance for the speedy and effectual extinction of the quicksilver ;" and in the Appendix to the 2d vol. of Bell's Treatise on the Venereal Disease, there is a *formula* in which manna is directed for this purpose. I have never made trial of it.

I have never attempted to reduce quicksilver by means of the *oleum sulphuratum*, as I considered it liable to the objections already made against sulphur, and animal fat.

It will contribute to place the importance of this communication in a proper light, concisely to review the *formulæ* for the preparations under consideration, as they are found in books of pharmacy, and compare them with my own. In the books which I have examined upon the subject, I find the quicksilver to constitute 1-2, 1-3, 1-4, 1-5, 3-7, 3-11, and 5-8ths of the several *formulæ ;* that unctuous substances are for the most part employed, especially in the unguent and plaster, for reducing the quicksilver ; and that the trituration is directed to be performed with conserve of roses, for the pill ; with hogslard and mutton suet for the ointment ; and with olive oil and resin of pine for the plaster ; and to be continued as above mentioned.

It is said that a " Dr. Sterling Wheaton, of the city of Raleigh, N. C. has invented a method of making quicksilver ointment, that abridges the labour required by the usual method more than four-fifths, and produces a very complete and perfect incorporation of the component parts." His method is, " triturate one pound of quicksilver with six ounces of honey in a mortar. If the mass be too viscid, add occasionally a little water, and in the latter part of the process, a little flour. When the globules have entirely disappeared, incorporate two or three pounds of lard, as desired ; and when the union is complete, wash out the honey and flour by mixing and rubbing with it water, which is to be poured off, and persevered in as long as it appears turbid, or continues to taste sweet." [Med. Rep. Hex. 2d, vol. 5, p. 310.] Here it will be perceived that Dr. W. allows one pound of quicksilver to make three or four pounds of ointment ;

pared as follows: quicksilver 1 oz. Bals. Copaiv. and common turpentine, *aa* half an oz., Castile soap, starch, and flour, *aa* 2 oz. i. e. quicksilver one eighth, and I have repeatedly proved it to be possessed of sufficient strength.

I have prepared a quicksilver plaster by triturating 1 oz. quicksilver with 3 or 4 oz. of common turpentine, which was rather too viscid to work easily without warming the mortar by the fire or on warm ashes, occasionally, during the operation, in order to render the turpentine softer: to this mass I have made no addition, but have set it by for a few months, when it would become of a proper consistence for a mercurial plaster, which ought, in my opinion, always to be softer than other plasters. Box, No. 5, contains a specimen of quicksilver plaster, made of quicksilver, 1 oz. bals. copaiv. and common turpentine, *aa* 1 oz. and plaster of semivitrified oxyde of lead, 8 oz. *i. e.* quicksilver 1-11th; trituration two hours. The reason why I employed the bals. cop. in the foregoing forms, was because my turpentine was too viscid to work to advantage. To make the pill and the plaster, the turpentine, or honey, whichever is used, will require to be of as firm a consistence as can be well triturated, or the mass, when the additions are made, will be too soft, to make up conveniently into their proper forms. To prepare a good quicksilver plaster, I would propose quicksilver and common turpentine, *aa* 1 oz. plaster of s. v. o. l. 8 oz.; triturate the turpentine and quicksilver together two or three hours; and then add the plaster of s. v. o. l. as directed in the Massachusetts Pharmacopoeia.

Certain late European publications recommend in some cases of disease, an *unguentum hydrargyri camphoratum:* and Mr. Cooper, in the work already referred to, gives a *formula* for its preparation as follows: "℞. Unguenti Hydrargyri ℥1. Camphor ℥ss. Misce." Whether it will be better to prepare this ointment according to the foregoing *formula*, or to triturate the turpentine, quicksilver, and camphor, together, previously to adding the hogslard, I will not give an opinion at present, as I have made only two experiments yet, relating to this form of the ointment. Box, No. 6, contains a specimen of the *Ung. Hyd. cam.* prepared as follows,

viz. *Ung. Hyd. mit.* of specimen, box, No. 3, 1 oz.; Camphor, oz. ss. triturated together.

It appears to me that *pharmacians* need seek for no other articles with which to reduce the quicksilver, in preparing these forms of medicine, than turpentine and honey; but objections have been made to both: one is, that the turpentine, in the ointment and plaster, excites inflammation on the skin of some persons: the other is, that in the pill, it sometimes produces symptomatic dysentery. By some writers, however, the former objection is also adduced against the hogslard and mutton suet in the ointment; and the latter, against the honey in the pill. It will be necessary to ascertain where these objections do fairly lie, before we consent to expunge either of these articles from the pharmacy of these preparations, or before we feel it incumbent on us to find out correctors. But it must be confessed, that turpentine in all its forms, when applied to the surface of some persons, does excite distressing and sometimes alarming cutaneous affections. In such cases, when the idiosyncrasy is known or suspected, unless the local affection would be advantageous, the prudent physician will prescribe a mercurial unguent or plaster that has been prepared without turpentine.

I have said that I continued the trituration in preparing these forms of medicine, at least two hours: I have generally done more; I have in some instances continued it six hours. But I confess I have never carried the labour so far as Mr. Bell speaks of in his work already quoted, *i. e.* to triturate the mixture "six or seven hours daily for thirty or forty days;" but I believe there would be an advantage in continuing the operation for a longer time than two hours, even when no more quicksilver is employed in the preparation than I have been accustomed to use.

Writers speak of a separation taking place between the lard and the quicksilver in the ointment, when prepared according to the dispensatories, and exposed to the "warm weather," or a "warm chamber;" but I am confident, if the quicksilver be not in over-proportion to the other ingredients, and the mass be duly triturated, no such separation will take place, even in the most ele-

i. e. the proportion of the quicksilver is 1-3d, or 1-4th of the preparation. I cannot possibly conceive this to be a judicious *formula*, for I am positive there is no less than twice or thrice the quantity of quicksilver that is necessary; besides the waste of the honey and flour, and the labour required to wash them out of the mass.

The latest *formula* that I have seen for preparing the stronger quicksilver ointment, is in Cooper's Dictionary of Practical Surgery. According to this, we are directed to employ equal parts of quicksilver and unctuous substance; and to continue the trituration "until the globules disappear.

I shall make no further observations at present, respecting the *substances with which* the quicksilver is directed to be triturated in the *formulæ* which I have reviewed; but with regard to the *degree of the trituration* directed, I do not hesitate to declare, that the globules of the quicksilver will disappear, even when a much less quantity of it is employed than is directed in any of the *formulæ* which I have examined, long before the trituration shall have been continued a sufficient length of time to reduce one quarter part of it to an active state: and with regard to the *quantity of quicksilver* that is directed, I feel myself warranted to assert, that if it is in an over-proportion to the other ingredients, is not necessary to produce forms of sufficient strength, is never all reduced to an active state, and is therefore WASTED.

From my own experiments in this business, which have been numerous, varied and faithfully made, I am confident that *one ounce* of quicksilver well triturated with *one ounce* of turpentine, or honey, of a proper consistence will, with the necessary additions, make at least, *eight ounces* of the stronger quicksilver ointment; or, the *same quantity* of the quicksilver pill; or, the *same quantity* of the quicksilver plaster; or, *sixteen ounces* of the milder ointment of the same name; and all of them, preparations of *good quality* and *sufficient strength.*

My method of preparing the quicksilver ointment is as follows: I take one ounce, by weight, of quicksilver, and about the same quantity of *common turpentine*, such as is obtained by notching pine trees, or by scraping the

ends of pine logs recently felled; I like this much better than the Venice turpentine of the shops; these I triturate in a *common* iron mortar, at least two hours without intermission, by moving the lower end of the pestle,* in a circular or rotatory direction, with such celerity as to perform about a hundred and sixty revolutions in a minute. Sometimes I move the pestle forward and backward in the direction of the fore-arm, which is an easier motion than the former, but I think not so useful. If the turpentine be too viscid, so as to render the operation fatiguing and slow, I add a little ol. Terebinth. or Bals. Copaiv. or half a tea spoonful of hogslard, by which the turpentine becomes softer and allows the pestle to move more easily; on the other hand, if it be too fluid, as is commonly the case with the Venice turpentine, I add a little powdered rosin, or turpentine that is more consistent. After the trituration is completed, I add the hogslard by little and little, and it incorporates more readily, especially if the preparation be made in cold weather, if the fat have been previously melted, and is now beginning to cool and appear opaque. Box, No. 1,† exhibits a specimen of the stronger ointment of quicksilver, made of quicksilver and Venice turpentine, *aa* 1 oz. common rosin 2 drachms, hog's fat 6 oz.—trituration three hours. Box, No. 2, contains a specimen, of honey and quicksilver, *aa* 1 oz. hog's fat 6 oz.—trituration two hours. Box, No. 3, contains a specimen of the milder ointment made of quicksilver 1 oz. common turpentine half an oz. hog's fat 14 oz.—trituration 2 hours.

I have prepared the quicksilver pill according to the *formula* in the Edinburgh New Dispensatory, i. e. quicksilver and honey, *aa* 1 oz. crumb of bread 2 oz. and think it a very good preparation, except that I object to the quantity of quicksilver which it contains, which is about twice as much as is necessary. In box, No. 4, I present a specimen of the quicksilver pill pre-

* My pestle is made of wrought iron, about eleven and a half inches long; in diameter, at one end, one and a half inch, at the other one and a quarter, and in the middle one inch; and weighs about three pounds five ounces.

† Specimens of all these preparations may be seen at the Editors.

pared as follows: quicksilver 1 oz. Bals. Copaiv. and common turpentine, *aa* half an oz., Castile soap, starch, and flour, *aa* 2 oz. i. e. quicksilver one eighth, and I have repeatedly proved it to be possessed of sufficient strength.

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Writers speak of a separation taking place between the lard and the quicksilver in the ointment, when prepared according to the dispensatories, and exposed to the "warm weather," or a "warm chamber;" but I am confident, if the quicksilver be not in over-proportion to the other ingredients, and the mass be duly triturated, no such separation will take place, even in the most ele-

vated natural temperature of the atmosphere. I confess a partial separation will indeed take place between the fat and the terebinthinate of quicksilver (if the term be proper) when exposed to a temperature, either natural or artificial, sufficiently warm to liquify the former. But I am disposed to maintain, from some experiments that I have made, that if the turpentine and quicksilver have been duly proportioned to each other, and the trituration have been continued a sufficient length of time, a separation between them will not take place, unless the mass be exposed to such a degree of heat as will cause the turpentine to *fry*.

It is said that Mr. Cruickshanck, in his Anatomy of the Absorbent Vessels, has asserted that the "globules of quicksilver, in the best prepared mercurial ointment, may be distinctly seen in the microscope." And, in my opinion, the reason is very obvious; because, according to all the *formulæ* to be found in books for preparing this ointment, the quicksilver is introduced in an over-proportion to the other ingredients; and the trituration is not required to be continued a sufficient time to reduce it; and therefore a part of it still remains in an uncombined state.

Unguentum Neapolitanum is the name given to the milder quicksilver ointment in some of the old books of pharmacy, and is still retained in the *Pharmac. Austriaco-Provincialis*. The same name has been in use among some of our elderly practitioners and other persons, since my remembrance. I do not recollect the articles of any *formula* under that name; but suspect that the ointment is directed to be prepared of quicksilver and hog's fat, which will afford only a *grey* colour, as the adjective *neapolitanus** imports, instead of the beautiful *blue* which quicksilver and turpentine, when triturated together afford.

When it is considered that the forms of quicksilver to which this communication relates, are believed to be the best preparations of that metal; that simplicity, economy and uniformity in the preparation of medicines are

* *Neapolitanus*, besides its signification, as a "gentile adjective," according to some editions of Cole's Latin Dictionary, is rendered "*grey*."

always to be studied by *pharmacians;* and that the *formulæ* which I have been accustomed to follow, while they require no more labour to produce forms of a given strength, contribute to a great saving of quicksilver; my Fathers and Brethren, I presume, will not accuse me with having taken up this subject prematurely, or unnecessarily. I have long noticed a striking difference in the *colour* of these forms of quicksilver, as prepared by others and by myself; and have been persuaded that the difference in their comparative *strength* was no less; although I employed a much smaller quantity of quicksilver in their preparation, than was directed by the *formulæ* in our pharmacopeias, but I never thought proper to make them a subject of critical remarks till the summer of 1810, when I prepared and read a paper before the County-of-York Medical Association at their annual meeting for that year. The reception that the communication there met with, led me to believe its contents were sufficiently interesting to submit to the perusal and disposal of the very respectable body to which I have presented it.

RICHARD HAZELTINE.

P. S. 1st. In reducing the quicksilver with honey, if the latter should be too thin, I would add a little powdered loaf sugar, or other dry sugar. If it be too consistent, it will be necessary to add only a few drops of water.

2d. All the weights spoken of in describing my own method of preparing these forms of medicine are according to the avoirdupois scale.

3d. My observations and experiments relate to the preparation of the articles of medicine which constitute the subject of this communication, only in the quantities specified. To prepare them in larger quantities by hand, would be too laborious; hence the advantage that would result to the public, if some person of ingenuity would invent a method to prepare them through the agency of machinery. I conceive such a contrivance might be very easily executed.

4th. Every specimen of quicksilver-plaster that I have ever seen, whether prepared by others or my-

self, except that prepared with quicksilver and turpentine alone, has, by being kept a year or two, lost its *blue* colour. To what cause this change is owing, and whether the plaster at the same time loses any or all of its virtues, as a mercurial, I cannot pretend to say.

R. H.

SIR,

At the last meeting of the Medical Society of Jefferson County, Dr. Henry H. Sherwood, of Rutland, communicated a case of *Spina Bifida*, in which the treatment was completely successful. In consequence of a resolution of the society, I now inclose to you a statement of the case, in expectation that it will be disposed of, according to your opinion of its merit.

I am yours, respectfully,

PAUL HUTCHINSON, President.

Dr. Samuel L. Mitchill, one of the Editors of the Medical Repository.

A CASE OF SPINA BIFIDA CURED BY A SURGICAL OPERATION. BY DOCT. HY. H. SHERWOOD, OF RUTLAND.

Watertown, August 11th, 1812.

ON the 15th of October last, I was called to visit David Tub's wife, then in labour. When I arrived, I found she was delivered a few minutes before, of a female child, who had a Spina Bifida.* It was situated, as near as I could judge, between the two last lumbar vertebræ, and was near the size of a goose egg. There was a spot near its extremity about the size of a half dollar, which was not covered with skin. By pressure I could lessen the size of it sensibly, which appeared to

* By the description of this case of Spina Bifida, it would appear that it projected more outwardly than we have seen, and what is commonly understood of that rare organical disease. We would beg leave to remind the reader that a celebrated modern surgeon, (Astley Cooper) has also successfully, but differently, operated on spina bifida. He has defined it, the hernia of the sheath of the spinal marrow, through the vertebræ, owing to deficiency of bony matter. This definition may make it easy to account for the external and pendulous-like appearance of this Spina Bifida.—EDIT.

produce a great deal of pain. The child seemed otherwise perfectly healthy. I at first, determined to remove the sac immediately, from an opinion I had long since formed of its affording a probable chance for curing the disease. And it appeared the more necessary to remove the sac in this case, from the circumstance of its not being wholly covered with skin, as it would probably inflame, and perhaps suppurate. I however soon found that it was the opinion of the women present, that it would be best to defer the operation a week at least, that the child might gain some strength, and be the more able to bear it. I agreed to it, with a strict injunction that in case the sac became inflamed in the interval, to inform me of it, as it would in that case be necessary to remove it immediately.

On the 21st of the same month, I was again called, and found the sac, together with its neck, considerably swollen, and in a high state of inflammation, which extended along the child's back more than an inch from the neck of the sac. The child had been very restless during the last two days. I immediately prepared the dressings, which consisted of a plaster Diach. simpl. spread on soft lint, a thick compress and a bandage. I then with a scalpel removed the sac from the body of the child. It bled profusely. I applied the dressings, which stopped the blood. Half an hour after the operation the child appeared much better, and soon went to sleep. On the 23d, I again visited the child, and was informed it had rested much better since the operation than it had before done since it was born. I removed the dressings, when two or three drops of water issued from the remaining part of the tube which had conducted the fluid into the sac. I applied the dressings as before.

On the 24th I again dressed the wound. There was no discharge of water from the tube.

The wound soon began, and continued to heal without any material alteration in the treatment, and in six weeks after the operation, it healed entirely. The child has ever since been very healthy, and is now as active and as beautiful a child as I ever saw.

I opened the sac, and found it filled with a watery

fluid (about a gill and a half.) The tube which conducted the fluid into the sac projected into it about 3-4ths of an inch, and was about the size of a crow-quill. The inside of the sac was lined with a strong membrane, under which the arteries and veins were beautifully ramified.

Remarks on a case of Clubfoot, and on its successful mode of treatment. By Thomas D. Mitchell, M. D. of Philadelphia.

DEFORMITY in the human species is so often productive of material injury, and so frequently detrimental to happiness, that the most trifling exertions to effect its removal are laudable not only in a philosophical view, but should always be cherished from motives of humanity. The species of mal-conformation are numerous, and some of them, we are sorry to acknowledge, are beyond the control of the healing art. Not so, however, with the subject of the present remarks. Though calculated to create distress and inconvenience if left to the rude hands of nature, it may be remedied, and has been cured, by the resources of art. Happy science! whose heaven-born powers like omnipotence itself, are destined to blast the daring sallies of misfortune, and to bless man with comfort and felicity.

It might be expected that the many cases of clubfoot occurring in this and other states of the union, or in Europe,* would have given rise to some useful remarks on this subject: but here the speculative pen has been held sacred, and the cabinet of practical facts has remained closed.

The subject of the present remarks is a boy of about five years old. The malady under which he laboured was congenital. Some time in the fall of 1809 I first

* We have in our possession the valuable Italian work on Clubfoot, by the celebrated Professor Antonio Scarpa: "*Memoria Chirurgica sui piedi torti Congeniti dei Fanciulli e sulla maniera di correggere questa deformita. Padua,* 1806. With five plates. And we are happy to observe, that the method of our ingenious correspondent is the same in the principle of angular splinters; the first differing only by auxiliary supports on the heel, on the instep and on the toes. Edit.

saw him, and found the state of his foot as follows, viz. The right foot was turned inward, so as to make the sole present upward and inwards. The patient rested on the outer side of the foot, which instead of projecting directly outwards, was in immediate contact with the ground. Thus in walking, the fibula was always separated from the astragalus, considerably. The os naviculare appeared to be unnaturally situated, very much on the outer side of the foot, and the place which it should have occupied on the inside, appeared to be filled with muscular and adipose matter. Respecting a conjecture of the celebrated Professor of Anatomy in the University of Pennsylvania, on the probable cause of clubfoot, I have little to say. That an extra-peroneus muscle may, and often does exist, I cannot doubt; but as the subject of the present case is now living, it was impossible to ascertain whether that irregular distribution of muscular power operated in this instance. I am of opinion that the confused arrangement of the tarsal bones, with the action of the usual number of muscles, was the efficient cause of deformity in the case under consideration.

The patient in the first instance had been attended by two respectable practitioners of Philadelphia. Subsequently it came under the care of the Dispensary, at a time when my then worthy preceptor Dr. Parrish was attending physician. The case was allotted to me, and was finally under my exclusive care. Angular splints were directed by Dr. P. of such size, as that one leg of the angle should extend on the side of the foot beyond the toes; the other about half way up the leg. In addition to this, the patient wore shoes with iron bound soles.

With some ease the foot could be extended to its proper position, and when so, the shoe was applied, the splints laid on each side of the foot and leg, and thus secured with bandages.

Frictions of Ungt. Stramonii were also employed, but without producing any evident good effects.

With these dressings I persevered daily for one month, afterwards twice a week, until the next fall; when in the month of October, a year having elapsed,

and a considerable change for the better having taken place, I relinquished the patient to the care of its mother, with such directions as were deemed proper. At this period, the child bore the weight of his body on the sole of his foot, almost entirely, and nothing but perseverance appeared necessary to effect a complete cure.

Having brought the patient thus far towards a happy restoration of regularity in his form, my recollection of the case began to decline. However, by mere accident in the course of my walks, I passed through the street in which my patient lived, during my attendance. By a strange association of ideas, the case presented itself to view, and I was led to make a few inquiries. The child, now grown to a boy, was seen running with his playmates; and so great was the alteration in the state of his foot, that had I not been somewhat attentive, I could not have perceived any defect. Some little deformity however remains, but so trifling, that the boy by his own muscular exertion will be able to remove it entirely. On the subject of clubfoot, the only book that I have ever heard of, is that of Sheldrake; and considering the author a mere manufacturer of instruments for the cure of the deformity, it cannot be supposed that his remarks are such as would be interesting to a medical man.

His plan of cure was by elastic metallic springs, to confine the foot in a certain posture. But as much irritation is always produced by their use, as was proved by the practice of the physician who first attended the above patient, I think them quite injudicious remedies. The wooden splints give little or no uneasiness, and by attending to them every other day, the foot may be sufficiently confined.

On this case I have but one more remark to offer. It is this. I believe that no case of clubfoot, however discouraging, should be forsaken as incurable. For if an infant, the means above mentioned may be employed until a child shall have sense enough to exert muscular action to obviate the deformity. If neglected till he further advances in life, the same remedies will be likely to succeed, by reason of the attention which the patient will naturally give to his deplorable situation.

An Investigation on the Nature, Growth, and Formation of the Human Teeth, with an Explanation of the Causes of their Decay; particularly of its uncommon prevalence in the middle and northern states of America.

BY HORACE H. HAYDEN ESQ. OF BALTIMORE.

Sir,

DURING the short interview I had with you in this city, I mentioned to you that I had noticed a substance entering into the composition of human teeth, and those of animals, situated between the enamel and bone; and apparently differing in substance from either; that in the case in which I first discovered it, (which was a very large human tooth, that had gone in the most rapid manner to decay;) the appearance of this substance was similar to that of the membrane which lines the shell of an egg. I also requested of you, some information as to the most probable means by which to separate those substances, the enamel and bone, leaving the intermediate one entire.

Since which, I have tried various experiments with acids and alkalies without effect. Still, however, unwilling to give up the pursuit, I adopted a different plan, by which, in the course of the winter past, I have happily succeeded in my efforts, and by which I am enabled to present you with a beautiful display of the manner in which the enamel is united to the bone, and also of the substance itself which constitutes this union.

This I have been able to accomplish by the following method: having observed that this substance was in a degree elastic, I had reasdn to believe that it was more vascular than bone, and therefore susceptible of absorbing more fluid, consequently, capable of greater expansion; and therefore, when exposed suddenly to violent heat, liable (like wet parchment) to sudden contraction, which must inevitably break up its attachment to the bone.

Under this impression, I subjected a quantity of

pieces of the tooth of the Hippopotamus, and also the teeth of several animals to maceration in water, until they were completely charged through the whole substance. I then prepared a violent heat in a stove grate, and suddenly exposed the several pieces of various sizes, to its operation while still wet. The effect was such as gratified my most sanguine expectations. The violent heat conveyed from, or through the enamel to this intermediate substance, occasioned a sudden contraction, which broke up its adhesion to the bone, and in many instances to the enamel also, which affords a complete display of the intermediate substance entire, and separate from either enamel or bone, of which I have pieces of various sizes. This experiment must be well timed to insure a favourable result, on handsome specimens, particularly on human teeth, those of cows, &c.

Hence, I am happy in having it in my power, to submit to your examination, specimens of various forms and in dimensions of all three, viz. the enamel with the intermediate substance attached to it, the intermediate substance alone entire, and also attached to the bone, which I flatter myself will be sufficient to put the matter beyond the possibility of doubt, as to the correctness of my opinion on this subject. It may be asked, of what service is this fact apparently so unimportant? Or what purpose is answered by it? I shall not, at present, attempt to detail at large, the advantages which I am inclined to think it affords; but this much I will venture to advance, viz. by it, we advance one step further in the true knowledge of the mysterious operations of some of nature's works; and thereby are enabled to embellish with genuine truth the interesting pages of *Natural History*.

From the diversity of opinions, advanced by different authors, on the structure and formation of teeth, some of which are ingenious, others much less so, yet supporting an equal claim to correctness and truth, I have been induced to offer some remarks on this head.

This I the more readily perform, since they are the result of my own observations, and actual experiments. Therefore feeling a consciousness of their correctness,

I shall cheerfully submit them to your perusal, and candid decision.

To DR. MITCHILL, &c.

UNTIL within the last century, little notice seems to have been taken of the subject, as it relates more particularly to the teeth of the human species, but since the commencement of which, numbers have been engaged in an inquiry into the subject with a degree of zeal and success that has nearly kept pace with the improvements in the other branches of relative science.

Among those, various have been the opinions advanced on the subject generally; but as it respects the formation of the human teeth, and those of some of the inferior order of creation, I know of no one that has carried his researches further than Dr. Blake of Edinburgh.

But with what degree of accuracy he has applied his remarks in the course of his inquires I shall not, in the present instance, take upon myself to declare. But since some of the opinions he has advanced in his publication of 1798, and 1801, (printed at Dublin) are irreconcileable to my ideas, particularly those which relate to the formation of the enamel of the teeth, and that he terms the Crusta Petrosa, I shall take the liberty of offering some remarks, not however with a view of refuting his opinions; but to state what appears, at least to me, to be more consistent with probability; and thereby, if possible, rendering the subject less questionable.

In treating of the human teeth, and particularly of the sacs, or membranes that surround the pulps, he observes, " the internal part of these sacs, soon after the commencement of the bony shells, deposits on their points and sides a soft earthy matter, moistened with a mucilaginous fluid; a small quantity of which is found between the membranes and shells." Further, " It may be proper to remark that it is *this* soft *earthy matter* which afterwards becomes the *cortex striatus*," or enamel.*

* Essay on the Teeth, page 5.

That this beautiful provision of the membranes, is made to accompany the pulps of the teeth, no doubt can be entertained; but, that nature should have recourse to this mode of economy in order to perfect her works, seems to me to be inconsistent with her general plan.

That the periosteum, or membrane, constitute the medium through which bone is deposited and formed, is an opinion long since advanced, and I believe, long since refuted.

That all the membranes in the human system are formed by the same means, and from the same source is very certain; that they receive branches from the same arteries, veins, and nerves as the other parts of the system, and are supported by the same living principle, is equally as conclusive. Hence, if bone is formed by a membrane in one instance, we may reasonably infer that it is in every instance deposited and formed by the membranes or periosteum.

We know that the chick within the egg, is likewise enveloped in a beautiful membrane, immediately within the shell; but we have little reason to suppose that the membrane has any agency in depositing the bone cellular substance, and much less, the feathers which differ as much in consistence from the general mass of the chick, as the enamel does from the bone of a tooth.

In uniformity with this principle, we might expect, that the external table of the cranium is deposited by the perecranium; and, since the principle of action is simultaneous throughout the membrane, that ossification, instead of commencing at several points, would manifest itself at the same time, and at every point throughout the whole internal surface of the membrane, and progress with equal uniformity, until the external table is in a degree perfected, after which, the dura mater ought to take upon itself the same office to perfect the internal table; but this, I believe, is not the case.

There are numerous instances in the wide range of nature which can be adduced, that will operate with equal, if not greater force, against the doctrine, that bone is deposited from, or by, either the periosteum, or membranes; since which, much less am I inclined to believe that the enamel, or, cortex striatus, is deposited

by any particular membrane under any degree of action, or modification, to which they are naturally liable.

We are not to conclude, because the enamel differs in texture and consistence from the bone of a tooth, that a membrane, subject to any peculiar change of action is necessary, to deposit and perfect the enamel; or in fact any other substance, which may be naturally appended to men or animals differing, in like manner, in its character.

Can we suppose that a membrane is necessary to deposit, and perfect the lofty anthers of the stag? or the horn-like teeth, which sometimes twenty or more in number enter into, or rather grow from that appendage which characterizes the saw fish? or, those curious appendages attached to the tail of a rattle snake? or, the whale-bone-like tuft, growing from the breast of a male turkey? Can it be even supposed that the beautiful convolutions of the turbinated bones of the cow, horse, &c. which resembles a spiral roll of rich Brussell's lace, is deposited by a membrane? I presume not.

But this mode of reasoning only serves to shew, that I do not rightly understand, or comprehend the subject; therefore, I will proceed to notice fome further observations contained in his ingenious essay.

In the formation of the teeth of different animals, Dr. Blake seems to have discovered the same prevailing economy to exist, as it respects the formation of, or disposition of the enamel, or cortex striatus, by a membrane; and also some other modifications, and other operations that prevail during the growth of teeth, not hitherto so particularly noticed, and illustrated; but, which at the same time, seem to be by no means free from exceptions.

In describing the formation of the grinders of a fœtus-calf of three months old, he observes, " the membranes which are intimately connected with, or *derived from* the *internal* part of the *gum*, can be easily separated into two lamellæ, the external of which is very vascular, though I could not trace a single blood vessel entering into the internal one. These membranes surround the pulp; and duplicatures of them pass down between the

internal divisions of it, exactly similar to the passing of the pia mater between the convolutions of the brain.

" As soon as the bony shells are perceptible, the internal part of the membrane secretes and deposits on their points, and progressively on their sides a soft earthy matter, similar to moistened chalk, and is itself moistened with a mucilaginous fluid, a great quantity of which is found between the membrane and shell." This soft earthy matter gradually assumes the crystalline appearance of the cortex striatus.*

With regard to the membranes being connected with or derived from the internal part of the gum; and which, is also the case with the membranes of the human teeth, agreeably to Dr. Blake's observations,† it seems needless to offer any comments; since he is so candid as to make the following acknowledgment:

" Having repeatedly inspected and examined the jaws of young subjects, I observed blood vessels passing from the gum to the membranes, destined to form the *cortex striatus*. It was natural enough then to conclude, that as the investing membranes were derived from the gums, their nourishment too did originate from the same source, and that the use of the vessels which entered the proper foramina of the jaws, was only to form the pulp and bony part of the tooth.

" Further considerations of the subject, however, urged me to *relinquish this opinion;* it would by *no means hold good* on comparing it with what takes place in the jaws of large animals."‡

But with respect to the duplicatures of the membranes which surround the pulp, being sent down to form the cortex striatus around those conical processes which are discoverable in the grinders of the cow or ox, the sheep, deer, camel, &c. I must confess myself, not unwilling, but unable to reconcile it to my present opinions and views, of the formation of the teeth of man, and animals.

Dr. Blake has certainly treated this part of the subject, as it relates to both, with a degree of ingenuity

* Essay on the Teeth, page 81.
† See page 1, Essay on the Teeth.
‡ See Essay on Teeth, page 117.

that does not fall to the lot of every one. But however far I may have fallen short of it, I must beg leave to examine the last mentioned circumstance, on the principles he has alleged and supported.

We are led to believe, that the first point, or points of ossification upon all teeth, as far as we are acquainted, is on the tops of the pulps; and that it gradually progresses towards the termination and completion of the roots or fangs, and that, as ossification progresses, a substance is discoverable on the surface of the body, or crown of the tooth, which as Dr. Blake correctly observes, resembles moistened chalk, and which in this state may be easily scraped off with the finger nail. This soft earthy matter gradually assumes the crystalline appearance of the cortex striatus, and without doubt, is what forms the ground work or basis of the enamel.

But the question is whether this chalky substance, or the real cortex striatus, is deposited and formed by the internal membrane.

Dr. Blake observes, page 81, that, "as soon as the *bony shells* are *perceptible*, the internal part of the membrane secretes and deposits on their points, and progressively on their sides, a soft earthy matter similar to moistened chalk, &c. The cortex striatus is *first perfected* or crystallized on the *cutting edges* or *protuberances* of the tooth, and proceeds gradually from thence to the neck, when it terminates; and in *proportion* as the first part of the cortex striatus is crystallized, *that portion* of the *membrane* which formed it, becomes thinner, less *vascular;* and at length, having performed the particular function for which it was destined, is totally wasted or absorbed; *part* of the membrane still remains on the body of the tooth, this however, is wasted as the cortex striatus covered by it attains to perfection."*

In the first instance, as it relates to the formation of the enamel, or cortex striatus of the human teeth, I would ask if it is probable, or even possible, that this internal membrane could perform its functions daily in depositing the enamel of a tooth, after that part which

* Essay on the Teeth, page 17.

forms the apex of this little capsule is wasted and obliterated? What is its situation? It is within the external membrane not adhering to, but loosely surrounding the body of the tooth, and within which is contained a mucilaginous fluid. And what are its connections? It adheres firmly to the neck of the tooth, and is slightly connected with the external membrane, but contains no blood-vessels capable of carrying red blood; at least I could not discover any, although assisted by a very subtle injection.*

This being the case, is not the medium of circulation in the membrane in a degree deranged by a part of it being wasted? If so, by what is the remaining part of the membrane nourished so as to perform its office in perfecting the enamel, since it adheres only to the neck of the tooth, and slightly to the internal membrane? It cannot derive it from the bone of the tooth, to which it adheres, or is attached, and it appears improbable that it derives it from the external membrane since it is destined, as will appear hereafter, to deposit and form a very different substance agreeable to Dr. Blake's opinion.

In the next place, if the same order is observed, in the formation of the teeth of various animals, viz. the cow, sheep, deer, camel, &c. as to the commencement of ossification at the tops of the pulps, and that as the bony shells are perceptible, the internal part of the membrane secretes and deposits, what afterwards becomes the cortex striatus, and that, as it is formed, the membrane is gradually wasted, how, or in what manner is the enamel, or cortex striatus perfected round those conical processes which are seen in the grinders of those animals, and which sometimes extend down almost to the bifurcation of their roots?†

If ossification commences at the top of the pulp, and if, as it progresses, the enamel is deposited, and as it is perfected the membrane is wasted, is not the continuity

* At page 81 Dr. B. observes, "I could not trace a single blood-vessel entering into the internal one."

† Those processes in the superior grinders of the horse extend down sometimes three inches; but others quite to the bifurcation of the roots.

of the duplicatures interrupted and cut off? It may be said not; for the duplicatures of the external membrane descend with it, forming a kind of hollow inverted cone, and that this is sufficient to support it, until the office of the internal one is perfected. In fact, we are left to believe, or at least to suppose, that the offices of the pulp, and surrounding membranes are performed in regular succession to each other, and that the action of the membrane is suspended until the tooth is nearly completed: for Dr. Blake observes (page 81) that "the duplicatures extend downwards, until checked by the junction of the internal *plates* of the *shells* which thus separate them from the pulps."

From the use of the terms "plates of the shells," we may conclude, that by it, is meant bony plates. In this case, as those conical processes extend down nearly two thirds the body of the grinders of the cow, horse, &c. we may infer that ossification has progressed thus far before the internal duplicature begins to deposit the enamel.

But this appears to me to be inconsistent not only with the general economy of the teeth, but with his own principle or theory.

But, in reverting to the subject, we have reason to believe that the continuity of the internal duplication is intercepted, and its action destroyed, from the following circumstance. Dr. Blake observes (page 82) "that the protuberances of the tooth first appear, and thus *intercept part* of the *nourishment* from the duplicatures of the membrane which passed down into the internal cavities."

When the tooth rises somewhat higher, *all nourishment* is cut off from the internal duplicature of the membrane which is then found *dead* and of a *darkish purple colour*.* Can it be admitted, if the enamel is deposited by the membrane, that it can be duly perfected, when the membrane is at first partially destroyed and gradually progressing towards a total wasting away?

We are further led to a conclusion that the circulation and action in both the internal and external membranes are cut off from the following:

* Page 83. See also page 89, 127 and 199.

Dr. Blake observes (page 84) that " it appears that the internal part of the membrane secretes the earthy matter of the cortex striatus, and that as soon as it has performed its function it is wasted or destroyed; for its external lamella, as soon as the *upper part* of the cortex striatus is crystallized, begins to deposit on its surface a substance differing from *either* the *bony part* or the cortex striatus, being harder and more brittle than the former, and less so than the latter;" this substance, " for distinction's sake," Dr. Blake calls the " crusta petrosa."

There is every reason to believe, that a certain degree of uniformity prevails in the action of the vessels that deposit the bone of the tooth, the enamel, or cortex striatus, and the crusta petrosa; and that when ossification is begun on the pulps, the points or shells unite, and the other substances are in due order deposited, until the top of the crown of the tooth is completed in its form.

Hence it must be admitted, that the upper part or orifice of those conical processes, when the duplicatures are sent off, are in most instances filled up by the crusta petrosa, before the tooth is formed down to the termination of those processes, or at least, to the bifurcation of the roots; consequently, the duplicatures, or membranes must be intercepted.

Of this, we have what I consider the most unequivocal proof, in examining the grinders of the animals beforementioned. It appears obvious, that nature often varies in her operations, so much so, as to lead us to form conclusions directly opposed to each other in examining different subjects of the same class and order.*

Hence, there remains no doubt, but that the subject of Dr. Blake's observations, and from which he drew his conclusions, were such as to authorize him in a degree to advance the following opinion on this head.

" In some few instances, the grinders remain suffi-

* Cuvier observes in his treatise on the horned rhinoceros that " to obtain a complete knowledge of the teeth of herbivorous animals, it is not enough, to have seen them at one period of life, as these teeth are continually wearing down; the figure of their crown is also in a continual state of change; and the naturalist must follow them from the moment when they pierce the gum, to that when they fall out of the mouth.

ciently long under the gum, so as to allow the cavities in which the membranes passed down, to form the cortex striatus to be *nearly* filled with the crusta petrosa. In most cases, however, these cavities are filled entirely with the matter of the food, by the broken particles of the teeth, whilst grinding, or by sand, clay, &c."

In examining the grinders of the animals before mentioned, of different ages, we see numerous instances, such as described by Dr. Blake; but their number, as far as my observation has extended, falls far short of those which are, on the contrary, completely closed up with bone or crusta petrosa.

Hence, I am induced to believe that the duplicatures of those membranes passing down into the bodies of these teeth, to form the conical processes, are in most instances interrupted, and the nourishment cut off by the process of ossification being completed at the top of the tooth first; thereby, leaving the lower, and greatest part of these processes an entire void, or destitute of the crusta petrosa: for in making a longitudinal section, that shall intersect the conical processes of the grinders of either the cow, horse, &c. we find, in three cases out of five, if the animal is young, the upper part of the process filled with bone or crusta petrosa as it descends, it has less the appearance of bone; thus it gradually assumes the appearance of pure phosphate of lime, wanting the gluten to give it consistence; from thence is assumes a brownish, then a purple colour, and terminates in many instances, in a dark or blackish substance resembling dried blood, which no doubt, (particularly in the grinders of the cow, or ox) appears to have more the consistence of bone, possessing more of the gelatine or gluten than lime, all of which I shall endeavour to account for hereafter.

That these conical processes are completely filled up at the top of the teeth, and consequently the nourishment of the duplicatures intercepted, leaving the remainder of the processes hollow below, will appear evident from the following.

In describing the process of ossification in the grinders of the elephant, and pointing out the different appearances which are manifested in the duplicatures that are

sent off to form the cortex striatus and crusta petrosa, Dr. Blake observes : " This beautiful contrivance was necessary, otherwise, as the processes of the pulpa elongata, and the bony shells extend downwards on them *many inches previous* to the *junction* of their edges, the upper part of the cavity or *interstice between them* would be filled by the crusta petrosa, whilst the lower part of it would be empty, *which sometimes*, though seldom, happens in the upper grinders of the horse."

On examining the grinders of those animals, at least the cow and horse, at the period when their grinders are formed and nearly all appear through the gums, I have found in most instances as far as my observations have extended, that the processes were filled up, and the teeth completely formed. In other instances where the animal was more advanced in age, and where the grinders were abraded, or worn down by mastication, those hollow processes were just making their appearance. And again in other instances, when still more advanced in age, the grinders are so far worn down as to expose the remainder of those processes completely hollow, and (in which Dr. Blake is perfectly correct) filled with extraneous matter.

Of such, I am inclined to believe he drew his conclusions ; and in fact there are instances even in young animals, which if examined separately would strictly justify his opinion on this point ; for I have seen in examining the grinders of the horse, the fifth molaris from the anterior one in the superior jaw with its conical processes, entirely open at the grinding surface, but nearly filled with extraneous matter ; in like manner was the corresponding one on the opposite side of the jaw, while the four anterior grinders, and the sixth or posterior one were entirely filled up with bone ; and (being a little worn down) presenting surfaces with all the beautiful convolutions of the external plates of the cortex striatus, and also the internal plates surrounding the conical processes, which might have, when considered in relation to the grinders of the opposite jaw, suggested, certainly no inappropriate idea of the manner in which the grinding surfaces of a pair of mill-stones ought to be pecked in order to perform their office duly.

Cases of the last mentioned description I consider as coming under that class which Dr. Blake has described, in which ossification has progressed more rapidly, perhaps, than at any preceding, or subsequent period, during the dentition of the animal; in consequence of which, the tooth, or teeth, were forced out through the gum, and the nourishment cut off from the duplicatures that deposit the bone, or crusta petrosa in the internal processes before it had sufficient time to deposit it, except at the top of the tooth which was quickly worn down, leaving the cavity to be filled with extraneous matter as before.

Instances of this kind, in which ossification seems to progress more rapidly than at other times is often manifested in the economy of the teeth. Not only so, but we see it in other instances of the animal economy; but in none however more evidently than in infants, where in some cases the bregma is closed up in eighteen months, or less; in others it remains open three years, or more; a circumstance which in my opinion affords room for some very important and useful deductions relative to the action of the vessels in depositing ossific matter under particular circumstances. But this is wandering from the subject.

Having cursorily noticed the opinions advanced by Dr. Blake relative to the formation of the enamel, or cortex striatus, and crusta petrosa, by membranes which surround the pulps of the teeth of man, and animals, duplicatures of which are sent down to form the conical processes in the teeth of the latter: I must beg leave in the next place to examine in a similar manner the grinders of the elephant.

Not having had the pleasure of seeing a dissection of one of those monstrous animals, nor of an opportunity of injecting the pulps of any of their formidable teeth; in whatever instance I may fail for want of ocular demonstration, I must pattern from *example* and resort to conjecture to supply the deficiency. In describing the structure and formation of the grinders of the elephant, Dr. Blake *seems* to have discovered the same mode of economy prevailing as to the formation of the cortex striatus and crusta petrosa as that which is manifested

in most other graminivorous animals, with the exception of some small deviation, for he observes:

"I mentioned to Mr. Corse in Edinburgh, that the pulp of an elephant's grinder was divided into a number of conical processes, and that duplicatures of the investing membranes passed down between these processes to form the cortex striatus. That ossification *commenced* on the *highest point* or *points* of these processes, and formed conical bony shells on them which extended *downwards* for *many inches previous* to the *junction of their sides.*"

From the exact representation of a section of the elephant's grinder which Dr. Blake has given us, and from an examination of a very large and beautiful grinder which I have in my own possession, there is every reason to believe that he is so far mostly correct. But how, or why he should so soon throw himself off his guard, and immediately advance an opinion, which if not contradictory, is so fully calculated to render the above opinion doubtful; is to me a circumstance not a little surprising. For he observes "that as soon as the bony shells were perceptible, the internal lamella of the investing membrane began to deposit the soft earthy matter of the cortex striatus on their external and *upper* surface, and that *as soon* as it was *crystallized* on the *upper part* of the *shells*, the investing membrane assumed a *different mode* of *action* and *began* to *deposit* the crusta petrosa on *their points* and *sides*, in order to fill up their interstices or spaces between the shells where the membranes passed down to form the cortex striatus, in a similar manner to those of the horse.*

Now if those conical bony shells extend down several inches *previous* to the *junction of their sides*, which is a fact no one can doubt that has seen them; if, as soon as ossification had commenced, and the bony shells or tops of those processes were perceptible, the earthy matter of the cortex striatus was deposited on them; and that as soon as it was crystallized, the external or investing membrane begins to deposit the crusta petrosa; is it possible, or can we even suppose, that these conical processes,

* Essay on the teeth, page 188.

which are in some cases six inches in length, would have remained separate from each other in their whole length? If this investing membrane assumes its action, and deposits the crusta petrosa so soon after the commencement of ossification, and also the crystallization of the enamel, or cortex striatus, would it not probably fill the space of one quarter, or three-eighths of an inch in thickness (which is the greatest distance I have ever seen between those processes, at least at the grinding surface) with bony matter, or crusta petrosa, as soon as four or five inches of bone is formed in length downwards, consequently unite those processes at their tops, probably before they were formed half their length downwards? Yet we see it is not the case, but on the contrary they are formed, and remain separate from the top almost or quite down to where the sides of the shells and cortex striatus unite, and where the formation of the roots of the grinder commence.

In support of this, we have not only the representation of a section of a growing elephant's grinder which Mr. Corse politely presented to Dr. Blake, of which the two posterior processes are at least represented entirely separate from each other, and from the main body of the grinder: but we have also the opinion of Dr. Patrick Blair,* (as quoted by Dr. Blake) who observes "several of which rudiments he observed lying stratum superstratum, or placed perpendicularly across the saw; they were two or three times intersected by membranes, whereby they could be disjoined; but after he had taken out several of those rudiments or processes, he observed no more such separations. Where the ligaments or membranes cease, they become extremely solid and ponderous."

* Who dissected an elephant that died at Dundee, in Scotland.

(To be continued in our next.)

REVIEW.

Recherches sur la Phthisie Pulmonaire OR AN INQUIRY CONCERNING PULMONARY CONSUMPTION. BY G. L. BAYLE. PARIS, 1810.

THIS work on pulmonary consumption, consisting of nearly 500 octavo pages, is one of the most valuable, in the medical line that has lately issued from the Paris press. It contains the result of facts observed, and carefully noted by an able physician and anatomist. The hospital *la Charité*, where he aided in the quality of an assistant physician, enabled him to examine this awful disease in all its stages, in every form; in individuals of various conditions, and of almost every age. He opened the bodies of 900 individuals whose lungs manifested that they were martyrs of this disease, or that its traces were distinctly marked on this organ. The work is divided into nine chapters. 1st. On the essential characters of consumption. 2d. The changes of the lungs which characterise the diseases that have been confounded with consumption. 3d. The particular lesion of the lungs and the symptoms observed in each species of consumption. 4th. Considerations relating to these species. 5th. The state of the lungs in the different periods of consumption. 6th. The state of the different organs after death induced by consumption. 7th. The complications of consumption with different diseases—the effect of these complications, and the errors to which they have given birth. 8th. General observations concerning the treatment of consumption. 9th. Fifty-four particular observations in support of this work.

The different species of consumption are designated by the following denominations:

1. Tuberculous consumption.
2. Granular consumption.
3. Consumption with *melanose*.
4. Ulcerous consumption.

5. Calculous consumption.
6. Cancerous consumption.

The author observes, in his preface, that the 2d, 3d, and 6th species were not known before, in an exact manner: that the ulcerous kind was described but imperfectly; and that it occurs much less frequently than was supposed. These species are founded not only on the difference of symptoms which this chronical disease presents, or on the causes which either accompany or accelerate its march, but on the different character of the *lesion* of the lungs. In a nosological point of view this seems to be a great improvement. Sauvage has given no less than twenty denominations founded on external symptoms, and other medical writers two or three only.

The character and symptoms of these six species are traced by Bayle, in a distinct and clear manner. It appears that the most common species is the tuberculous, which is often simple. The volume of the tubercles varies from that of a grain of millet, to that of a chesnut. The miliary tubercles are for the most part excessively numerous.

The granulous species, not mentioned by authors, is common enough. The granulations are of a cartilaginous nature and consistence. Their size varies from that of a millet-seed to that of a grain of corn. They are never opaque, and they never dissolve. The miliary are always grey, white, or opaque, and terminate by dissolution. It is almost always connected with the tuberculous kind, of which it hastens the progress.

The species with *melanose*, has been observed by authors, without being known in a distinct manner. It attacks adults only, and particularly persons advanced in age. It creates ulcerations in the lungs of more or less extent, of which the lips are black as charcoal, hard, and from several lines to several inches in thickness. The parts remote from the ulceration are usually very sound. If the disease affects the whole lung, *melanose* is hard, compact, black as ebony, or charcoal, and often resembles half-burnt leather.

The ulcerous species, it appears, is very rare. When simple, the ulcer is formed in the very tissue of the lungs.

The calculous species is also rare. The lungs inclose concretions sometimes resembling small stones, sometimes glomerated chalk, and sometimes small ossifications.

The most rare of all is the cancerous.

Nine hundred dead bodies opened by Mr. Bayle, enabled him to ascertain as follows, the relative frequency of each species.

Tuberculous,	624
Granular,	183
With Melanose,	72
Ulcerous,	14
Calculous,	4
Cancerous,	3
Total,	900

The ravages of consumption are truly frightful. Of six hundred and ninety-six individuals, who died in the interval of three years, in the hospital *La Charité*, two hundred and forty-four fell martyrs to this disease.

This hospital has more than the others in Paris, of consumptive patients, but the author believes, that of five hundred deaths, there is at least one hundred occasioned by consumption, and that of the other four hundred there are at least fifty in whom it is connected with the disease which terminated in death.

Consumption, he observes, is therefore one of the most frequent diseases. It affects all ages; from the most tender infancy, to the years of decrepitude. Children not twelve months old, and men of eighty are equally its victims. It is nevertheless true, that it is more common from the 15th to the 50th year than at any other epoch of life.

Of one hundred individuals who died at *La Charité*, in one year, of consumption, from the age of five years to eighty, the following table, by a division of ten years, shews the frequency of this disease at different ages.

From 15 to 20 years,	10 deaths.
20 to 30	23
30 to 40	23
40 to 50	21

50 to 60	15
60 to 70	8
Total,	100

Its ravages are exercised on both sexes almost equally, and it has no choice of season. In the course of three years, 1804, 5 and 6, two hundred and forty-four individuals died of consumption in the said hospital, of whom sixty-four expired in autumn, fifty-eight in winter, fifty-four in spring, and sixty-eight in summer. Total, two hundred and forty-four.

It is observed, that the duration of the disease is extremely variable. Some individuals die at the end of a few weeks, reckoning from the moment of the first symptom of the disease. Others labour under it for fifty years. Its usual term is from four to fourteen months. Sometimes it is half-healed, and renews its attacks at different periods. This, our author observes, ought to engage us never to abandon totally a consumptive person. If almost all fall victims in the course of some months, or in the interval of one or two years, there are some who may live a great number of years, especially by keeping them from the causes capable of conveying into the lungs a pernicious stimulus.

Concerning the complication of this disease with others, it is observed, that its origin ought not to be attributed to certain diseases, which without having determined a tuberculous degeneracy, hasten its march, or become mortal in consequence of another alteration pre-existing in the lungs. The diseases in question are eruptive fevers, peripneumony, pleurisy, pulmonary catarrh, hæmoptysis, diseases of the heart, syphilis. Of one thousand persons, M. Bayle thinks that there is not perhaps one who perishes of a chronical pulmonary catarrh without complication. A prolonged cold has been considered as a dangerous sickness, because with pulmonary catarrh have been confounded different affections which are accompanied with some symptoms analagous to these of cold. These affections are phthisis in the last stage, prolonged phthisis, and chronic and acute peripneumonies, which have complicated the chronical pulmonary catarrh. The facts which he observed

prove, that the development of tubercles depends on a general diathesis, and not solely on a local irritation. The tuberculous affection is very probably of a scrophulous nature, as Mr. Portal appears to have proven in his treatise on pulmonary consumption.

The 8th chapter of this work is occupied with the treatment of consumption, which, as is observed, differs according to its species and degree, and ought always to be adapted to the individual constitution of the patient, to the complications of this disease, and to the predominance of such, or such a symptom. In all the species of consumption, it is the same organ—the lungs that is attacked; but each species is characterized by a re-union of symptoms: the diagnostic is not then impossible. The treatment of consumption tends to prevent the invasion of this disease, and to combat it when it is manifested. To prevent it, it would be particularly necessary to remedy the general disposition which conducts to it; and when the phthisis is declared, it is still in a great part, against this general disposition that we ought to direct the curative means. But let us never forget, that whatever be the treatment we have selected, if it appear to give cure, we ought to insist on its continuance, and not to administer it in such a manner as that its effects will be but momentary; for, in the last case, we draw from it almost no advantage.

The *tuberculous* species is of a scrophulous nature. It is often hereditary. We ought to try to prevent it in individuals who have a narrow lengthened chest, high shoulders, neck too long, and thick lips; and individuals born of scrophulous parents, though they have the finest conformation of chest, ought not to be considered as secure against hereditary phthisis, if any individual of the family has died of scrophulous phthisis. This dreadful disease may be prevented by proper means.

The *granulous* phthisis appears to depend on the development of a great number of small cartilaginous bodies, which medicine cannot destroy. The alterations which they occasion in the organ of respiration may be prevented, and the symptoms palliated.

The species of consumption, with *melanose* is *incurable;* but it is often attended with little pain, and its

march is slow. Life may be protracted by the alternate use of *calmants*, antiseptics, tonics and bitters.

In the ulcerous species, it is not owing to the motion of the organ, that the ulcer is not healed; seeing that wound in the lungs by external causes are cured. The first depend on a particular habit, or vice, which we ought to try to combat.

In the *calculous* phthisis, the calculi are formed, as is proven by analysis, of the phosphate of lime, for which there is no medicament. This species is, therefore, incurable; but, by certain means, suffering may be diminished, and death retarded.

The *cancerous* species ought to be treated with those medicaments employed to retard the progress of cancerous diseases.

The 2d and 3d articles of this chapter treat of the complication of phthisis, and the mode of cure employed, and also of the treatment of its symptoms, in which the practical physician may find many useful observations. These complications are acute, eruptive diseases, repercussions of cutaneous disorders, acute pulmonary catarrh, hooping-cough and other convulsive affections, hæmoptysis, partial inflammation of the pulmonary parenchyma, causing local alterations which occasion phthisis; inflammation of the pleura.

The 4th article treats of the means to be employed against phthisis; and here the author makes the melancholy reflection, that this disease is almost always incurable and mortal, but that it is often confounded with other diseases, some of which the cure is easily effected.

In the most common kind, *tuberculous*, great advantage is derived from exercise on horseback, from voyages, whether by sea or land, from anti-scorbutics, bitters, alkalies, alkaline carbonates, muriat of barytes, &c.: but the medicaments particularly recommended are the wild horse-radish, cochlearia, cresses, peruvian bark, gentian, snake-root of Virginia, carbonat of soda, lime, muriat of ammonia, &c. All these remedies are more or less useful, especially when favoured by a good regimen, and strengthening nourishment, consisting chiefly of animal substances, which contain much extractive matter, such as beef, mutton, ham, pigeon, &c. Even when the first

symptoms of the disease are manifested, it may be mitigated, and even made to cease for a long time, by the continuance of exercise, ptisans, bitters, anti-scorbutics and the repeated use of aromatics, and sometimes even those that are bitter. A voyage, at this epoch is very useful. When the symptoms resist the use of these means, which too often happens, the mineral sulphurous waters may be employed with success, as they are very efficacious in combating scrophulous affections. In the last stage of this disease, the same waters become pernicious; and in all epochs, they are dangerous, when there exists a state of plethora, or inflammatory complication.

When tonics, anti-scorbutics, or active bitters cannot be employed, the syrup of peruvian bark, the jelly of *lichen islandicus*, the infusion of small oak &c. may be employed.

In syphilitic, or dartrous complications, sulphur, *kermes-mineral*, or other antimonial preparations, sudorific ptisans, muriat of mercury, &c. may be employed.

In a great number of chronical diseases, medicaments extracted from venomous vegetables stop their march, by blunting, in some sort, the organic sensibility such as *conium maculatum*, *aconitum napellus*, *hyosciamus niger*, *Atropa bella donna*, *digitalis purpurea*.

The remainder of this valuable work contains an account of the opening of fifty-four bodies, of which the lungs were attacked by consumption. We shall translate the first *observation* to shew the method employed by the author in collecting and arranging the facts on which his system rests.

First period. Hidden tuberculous phthisis, or phthisis not yet commenced. Lungs covered with tubercles. Death in the access of a regular intermitting fever.

" A female cook, twenty years of age, of middle stature, robust constitution, having all the freshness and fulness of the most flourishing youth, was received into hospital *La Charité*, the 13th of September, 1806. Her sickness had commenced a month before, by a sudden suspension of her menses, occasioned by sudden fear. From that moment she had suffered colic, which prevented her from working, and which, at last, forced her to enter the hospital. Till her 20th year, she had en-

joyed good health. She was unmarried, and, according to the testimony of those who placed her in the hospital, her morals were very pure. Two days after her admittance, she was seized with a regular intermitting fever. The fits commenced by a violent shivering, followed by a burning heat, and afterwards with a sweat, often very copious. They returned after noon, every day, or every second day, and the pulse was usually a little quick in this interval. Notwithstanding these symptoms, and the continuation of colic, she did not become lean; but her complexion assumed a wan colour, somewhat yellow, which is observed in all persons affected with intermitting fever. She took bitters.

"At the close of September this girl experienced colic continually, and was oppressed. She, nevertheless, appeared much better. Her pulse was not so quick, between the fits of fever, which were much more remote; her appetite was sufficiently good.

"Towards the 10th of October, she began to have a very frequent pulse, even in the intervals of access, and from that moment, although she did not become sensibly leaner, her pulse was quick. The fits of the fever returned in a manner irregular enough. The colic was frequent. She said she felt no pain in going to stool, or in making urine. Towards the middle of October she experienced vague pain in the breast, and a violent cough during the night, which was not followed with any expectoration. The appetite continued. The 24th of October she had not become lean, and she did not dread the cold. She took a pectoral ptisan, and bitter apozems.

"From the 26th to 29th October, she was nearly in the same situation, except that she shivered, had more oppression, and said that she felt more sick. The 29th, she eat half a meal. She remained up all the day, as usual, but she sat near the fire, and said that she was very much indisposed; at the approach of night she went to bed very much oppressed. She was soon seized with an access of fever; the shivering continued a long time; all the body was refrigerated and she died at midnight, at a moment when no person expected this event.

OPENING OF THE BODY.

"The body presented a full state, and a remarkable freshness.

"*Head.* All was sound in the cavity of the cranium.

"*Thorax.* The lungs in all their extent adhered to the neighbouring parts, by the aid of much cellular membrane. They were covered with miliary, and lenticular turbercles, firm, of an opaque white, grey or yellow; and the pulmonary parenchyma was more firm, and more red than in its natural state, around most parts of these tubercles, of which none was yet in suppuration. The heart was sound.

"*Abdomen.* The liver adhered to the peritoneum by a multitude of accidental cellular membranes. Its colour was deep and bordering on yellow, and of soft consistence.

"The stomach, which was sound, still contained liquids, which distended it; the epiploon was ulcerated, and presented filaments and membranous parts, of different thickness and varied length; it contained but little fat; at its inferior extremity there was a black tumour, hard, granular, of the bigness of a nut, and evidently tuberculous. The small intestines were of a red colour. The matrix was sound, and the two ovaria formed each a hard unequal tumour, of a black red at the exterior, of a white grey in the interior; the ulceration was even visible in a part of the external surface; the vagina was red; the membranous hymen was entire, and pierced with a very narrow opening. The bladder adhered strongly to the anterior face of the matrix; the internal membrane had a deep red colour, was covered with tubercles, of a miliary and lenticular size, of a white colour in their interior; those, which were already suppurated, and ulcerated in their centre, resembled aphthæ.

"*Reflections.* We see that this girl died of an access of intermittent fever. The pains felt in the belly, were determined by the disease of the ovaria, of the peritoneum, and its duplicatures. It is astonishing that no pain was manifested in the bladder, which, as we have

seen, was already attacked. If an unexpected death had not terminated the days of this girl, who had not experienced manifest signs of an attack of the lungs, except during her last days, she would have sunk at the end of a few months, after having passed through all the degrees of pulmonary phthisis, already incurable, when we would have perceived evident signs of the first degree of this terrible disease.

We must not confound miliary tubercles in this observation, with miliary granulations, of which we shall speak in the following case. These tubercles are opaque, and are of a dull white. The granulations are shining, and half transparent like cartilages, &c."

The reader may easily perceive by the above narrative, with what perspicuity and clearness of mind, this excellent writer arranges the subsequent fifty-three cases, in each of which cadaveric observation is compared with the accidents, symptoms, and moral affections of the preceding state of life; not only each case is referred to its species of consumption, but to a period or stage of the disease, corresponding to the four great divisions he has assigned to them in general. Thereby Mr. B. accurately notices all the circumstances by which phthisis pulmonialis has been disguised and deprived of its usual characteristic symptoms, all the diseases which are most commonly connected with it. Also, those which may often be mistaken for it; and finally, condenses an immense body of facts for the support of all doctrinal points he has undertaken to establish on this important subject.

It would be almost impossible for the most extensive professional life of a physician, to afford any thing equal to the mass of observations and facts contained in that work, on one only disease. Hence, it is more useful and recommendable, adding that it derives such an unquestionable degree of authority from numerous cadaveric inspections, leisurely conducted or witnessed by the best judges and ingenious adepts of surgery and anatomy. The less interesting part of this work, is that of the treatment of the different species of consumption, and of their complication with other diseases. It may be said that it is systematically arranged and infi-

nitely correct, in general and particular indications; but as usual, the French Materia Medica here abounds with a variety of articles of little or no efficacy, while we regret not to find any mention made of those remedies which recent practice, both in England and America, has proved highly important and useful.

By adverting to that imperfection, we hope to appear more impartial in bestowing much praise to the performance, and professing the greatest respect for the author, whose book is written with elegance and in perfect didactic style.

COMMUNICATIONS OF THE MEDICAL SOCIETY OF CONNECTICUT. No. I, VOL. I. *New-Haven. Sidney*, 1810, *pp.* 80.

CONNECTICUT has by law associated its physicians into Societies. The publication before us, if we understand the arrangement, comes from the central body, formed by delegates from the respective meetings in the counties. At a convention held at New-Haven, in the autumn of 1809, a committee was appointed to make a selection for publication, from the communications made to the Society. The gentlemen to whom this trust was assigned, have acted in conformity to their instructions; and the present performance is the result of their deliberations. We are well pleased to see it, for we therein behold the efforts of the members to improve the healing art, and observe at the same time who they are.

The articles are fourteen in number; and appear to have been written chiefly by practical men.

The first is *an inquiry into the propriety of using highly stimulant remedies in the petechial or spotted fever, in typhus and other cases of debility, by Timothy Hall.* The writer, after examining the speculative opinions of several modern authors, expresses a belief that the spotted fever, in addition to the common causes of fevers in this country, may be owing to the unusual condition of the weather for several years past, and to the injury it may have wrought upon grain, fruits, and other vegetable productions employed in human diet.

For the symptoms, he quotes North's Treatise, and

some of the essays therein contained. But as these are sufficiently displayed in our vol. 15, p. 56—72, we thither refer our readers.

As to the cure, he examines the merits of the evacuating and of the stimulant plans, and seems to be opposed to the indiscriminate use of either. He wishes to be guided by the state of the system, rather than by the name of the disease. If therefore the powers of the constitution are slow and torpid, he excites them by heat, through the medium of bricks, blankets, drinks, and similar aids. But if the action of the heart and arteries is increased, and the skin hot, he dissuades the employment of the stronger stimulants, such as wine, ardent spirits and laudanum. He recommends that the feet be kept uniformly warm, that sinapisms, blisters and other topical applications be duly made, and that the stomach be comforted with alkaline aromatic julleps.

In cases of less severity, Dr. H. advises that the first passages be evacuated, that a free outlet be procured for the perspiration, and that vigour be imparted to the solids; and expresses a very favourable sentiment on Dr. North's practical treatment, for which see as before, p. 72. To these observations are subjoined several histories of cases that fell under his own inspection.

The second paper is *on the nature and use of aliments in the animal economy, by William Tully.* The author considers the stomach and lungs as the only inlets through which nutritious matter can be admitted into the living system. He rejects the absorption of alimentary substance by the skin and the large intestines; as he also does transfusion of blood. He inquires into the balance between the respiratory and digestive organs. He then gives his reasons for supposing that the oxygen received by the lungs is the principle of excitability. After some conjectures on the chylopoietic functions he proceeds to the consideration of the comparative qualities of animal and vegetable food, affirming that the former affords more chyle, is more readily digested, and excites more irritation and heat than the latter. These, with some other speculations on sympathetic actions, on the pregnant condition of the female body, and on the *vis naturæ medicatrix*, conclude this physiological tract.

Next follows the history of a disease written by Dr. J. Barker, wherein death ensued, after a series of dropsical symptoms. On examining the body, the right ovarium, and the contiguous parts were found to be enlarged and schirrous.

In a paper concerning *waters of the Stafford mineral spring*, Dr. Samuel Willard endeavours to prove from a partial analysis, that the predominating ingredients are 1, iron; 2, sulphuretted hydrogenous gas, and 3, aluminous and magnesian earths. The fixed ingredients do not however, exceed twelve grains in two gallons, as he proved by evaporating that quantity of the water, and weighing the residue. He thinks the metal is dissolved by means of the carbonic acid, though it does not appear very evident from the experiments.

Dr. Joseph Foot describes a case wherein the liver was found by dissection after death, to be considerably enlarged, so as to weigh nearly nine pounds and a half.

We might lay before our readers a specimen of the work under review, a strongly marked and distressing case of the disease occasioned by the bite of a rabid dog, as a testimonial of professional talents and descriptive powers of Dr. Howard Alden. We shall only mention that it was that of a boy six years of age, who having been shockingly attacked at two different times by a dog, bit and wounded on his face, in a desperate manner, had both lids of the right eye rent, the left cheek perforated, two teeth tore out, and was otherwise much scratched. Symptoms of local inflammation took place, which were successively mitigated by judicious medical aid, and the boy seemed in a fair way of recovery, when ten days after, all symptoms gradually assumed a very alarming aspect, with hydrophobia, fearfulness of a dog in the room, aversion to even wet clothes, darting pains through the head and breast, and a singular violent catching, producing a sharp and shrill noise perhaps like a kind of a very convulsive hiccough. After it, discharging a little wind from the stomach, he was relieved. He would frequently shriek and complain of cold and rigor. At this period, his pulse was about one hundred in a minute, and he retained the exercise of his reason. By ad-

vice of several physicians he was put on the use of much opium and musk. These remedies sometimes alleviated or altered the symptoms. Thus, he once felt dysuria to a great degree, and often experienced a great perturbation of mind with foam and froth at his mouth. Yet he never attempted to bite any body, knew his friends, and his convulsive symptoms were invariably aggravated by the act of swallowing any liquid substance. Through various stages of the most horrid agitation, " about 1 o'clock in the morning, and four days after his relapse, he puked up a very viscid mucus with a little tea which he had last taken, the sight of which threw him into the most extreme convulsion, grinding of the teeth, involuntary fits of laughing and crying by turns, even the sight of liquids now threw him into great distress—2 o'clock more terrible still, frequent grinding and gnashing of the teeth, foaming and frothing at the mouth, eyes extremely fierce and staring, starting with the most fearful apprehension, catching at things in the air, and at the bed clothes, striking violently with his hands and feet, though not at any particular object, apparently strangled with phlegm in his throat—he could yet speak so as to be understood; he continued thus to rave with the most sudden and violent contractions of the body, with frequent retchings to vomit, but discharged little, until between 3 and 4 o'clock; he being quite exhausted, sunk back upon the pillow, with a ghastly countenance, staring eyes, laborious and interrupted respiration, but free from convulsive affection, retaining the faculties of seeing, hearing and knowing his friends, and able to speak pretty distinctly, he continued till 5 minutes past 5 o'clock, when in a moment without a struggle or a groan, death closed the scene."

After this we find a case of hydrophobia which ended fatally, under the care of Dr. Eli Ives, though treated with mercury, opium, bark, wine, and other stimulants.

There are practical cases, described in terms respectable to the writers, but not particularly interesting to the general inquirer; finally follows an examination of the question, what is the most eligible method to promote medical knowledge in Connecticut? By Gideon Shepperd.

An uterine polypus removed by ligature, and a retroverted womb restored to its place, in a woman three months gone with child, by means of pressure through the vagina and rectum, are testimonials of the adroitness of Dr. Ives, and of the other practitioner who withholds his name.

Such is the sketch we offer of the first publication laid before their fellow-citizens, by a learned faculty of a sister state. It would have given us pleasure to have noticed it at an earlier day; but this was not in our power. And we conclude our remarks upon it by expressing our hope, that the members will continue their vigilance and activity, and from time to time lay the evidence thereof before the public, in other and larger collections of their writings.

MEDICAL & SURGICAL LITERATURE.

AN ACCOUNT OF THE REMARKABLE OPERATION, PERFORMED BY MONS. CHAMPION OF FRANCE; WHEREBY THE EXTREMITIES OF THE BONES IN THE ELBOW WERE TAKEN OFF, AND THE USE OF THE ARM RESTORED, WITH SOME HISTORICAL FACTS RELATIVE TO THAT MODE OF OPERATION.

L'art de Guérir ne triomphe jamais plus heureusement que lorsqu'il peut employer les moyens Chirurgicaux ou Operations.

M. PELLETAN CLIN. CHIR. TOM. 1.

FROM the remotest age to the present day, there never was any approved nor proposed remedy for the destruction of caries in diseased joints of cylindrical bones, and the amputation of the limb must be resorted to for the preservation of life. But Mons. Champion, chief surgeon of the Asylum for Mendicants, in the Department de la Meuse, consigns in the *Journal de Paris*, for March, 1812, this narrative of excision of the almost entire articulation of the elbow, restoring therewith both the use and movements of the arm.

In a very pertinent history of the progress of surgery towards this operative improvement, the author finds two anterior periods at which, English and French surgeons attempted to introduce it nearly at the same time. White of Manchester, in 1767, and Vigaroux of Montpellier, in the same year, were the first and successful operators, who were afterwards imitated by Bent of New-Castle, and by Messrs. Danovret, Moreau, Percy, David and Roux of France. In all these cases, however, the excision of diseased extremities was partially

effected, and exclusively applied to the articulation of the shoulder, when Park of Liverpool, in 1781, and Moreau, in 1782, both performed that operation in ginglymoid articulations by different modes, in their respective attempts, but with equal success. By the astonishing operation of Park, all the carious bones of a knee were carried off. But M. Moreau took up a case, perhaps more formidable; it was the articulation of the ancle mashed by a carriage wheel, in a robust young man. The fibula had been fractured at its lower end, the foot luxated outwardly, the ligaments lacerated, with the tarsian head of the libia left protruding through the integuments. Moreover, twenty days having elapsed since the accident before the unfortunate could receive some regular help; the foot seemed still more propelled, an inferior fragment of the fibula was lodged in the flesh, and the tibia carious on a space of two inches. The leg offered here and there gangrenous scars, partly dissolved by ichorous and fetid matter. In short, worms pullulating from the wound were creeping from under the dressings. A more aggravated state of symptoms and circumstances could not be requisite to command the amputation; to which, the patient and his friends acquiesced. But Moreau, finding that the foot was sound, that the principal vessels, nerves, and muscles, were alive, boldly and instinctively conceived that by some other operations he might save the limb. He therefore sawed off the lower dead end of the tibia, and disentangled that splinter of the fibula, which was buried in the flesh, then sawing the extremities of this divided bone, which could no more be brought together, but preserving the external ancle he terminated the operation, by dissecting out all flesh and integuments that were putrid. There remained nothing more to be done than to replace and secure the foot at the end of the leg, with appropriated bandages.

The consequences were as natural as the operation had been laboriously effected. Three months were sufficient to elongate the extremities of the bone, to consolidate the foot, and to heal up the wounds, so as to prevent the patient to bear upon it. Before the end of the year he could walk without difficulty, ex-

cept a lameness resulting from the contraction or raising of the heel, and acquit himself of the fatiguing and daily work of a country labourer; having sensibly recovered in this new articulation, all movements of inflexion, extension, adduction and abduction.

Messrs. Park, and Moreau, had thus displayed much vigour of mind, and a perfect surgical skill. But the first published an account of his operation, with as much timidity as to render it very questionable whether it should be repeated, and he was inclined to apply it to the elbow exclusively, and never to the knee. Far different Moreau reported his case to the Academy of Surgery, in 1782, boldly proposing and recommending that a similar operation should be applied to all ginglymoid articulations.

That celebrated institution had not yet received any knowledge of the operation of Park, which was published only in 1783; and however disposed they might feel to extend, by their approbation, the means of remedying to caries and diseases of the joints, they hesitated at first, raised some doubts on the truth of all circumstances related, and left to further progress the consideration of an operation extremely cruel and difficult, until it was better ascertained that its results might very often be successful. Lassus, who translated and published an account of the operation performed in England by Park, remained notwithstanding, inflexible in his characteristic aversion to novel and dubious practice, declaring that the excision of joints could not be prudently repeated. In 1789, revolutionary disturbances and proscriptions in the capital of France, interrupted the labours of the principal literary and scientific institutions, and thus this important subject was again left to future investigation and revival.

Such are the causes and motives, which Mr. Champion describes of the neglect of excision of bones in ginglymoid articulations; it is not known whether it was again performed. The illustrious Sabatier among the modern surgeons, stands alone highly to approve and recommend that operation. "It is probable," says C. "that Mr. Percy, and other military surgeons, have possibly applied it to some dreadful ca-

ses of gunshot wounds." As for himself, he had been tutored by Moreau, and had imbibed all his precepts, in conformity with which, he could not fail acting whenever an occasion would occur, with well founded motives and hopes of success. This is the subject, which he has the honour to submit to the attention and judgment of the enlightened and unprejudiced of the faculty, regretting not to have it in his power to shew them likewise, the patient operated upon and cured. To this he supplies by a wax preparation of the arm, in its greatest degree of extension, offering in the same, a view of the shape and size of the new joint and the scars of the incisions that were made in the limb.

Stephen Hyardel, a labourer, apparently of a lymphatic temperament, forty years old, had suffered various stages of a cutaneous disease, successive hurts, falls on the arm and different treatments, the detailed account of which we do omit, thinking it sufficient to state that all the articulation humero-cubital of the left arm was extremely swollen, bearing an ulcer on the internal part, from which a serous and yellowish matter was incessantly oozing, which turned of a grey colour on linen. A probe could easily be brought in the joint, between each of the carious extremities of bones that compose it. In this state of the limb, the prognostic could not offer any alternative between death or the loss of the arm; and a new kind of operation was therefore concluded upon.

The patient being seated on a high chair, with his back to the light, keeping his arm bent, and lifted up in a right angle of the body, four assistants were arranged to support and secure it at equal distances, and a fifth had charge of the tourniquet applied on the upper part. Then a longitudinal incision to the depth of the bone was made on the upper back part of the arm, two inches above the upper condyle, and extended below it. A similar and parallel one was made above and below the lower condyle, when both were immediately united by a transversal incision exactly under the triceps extensor cubiti. Thus, a quadrilateral flap was formed which could be raised. Now the surface of the humerus was seen like that of a confuse mass of fibres, but rather white and shining: two pyriform excrescences arose from the lower part of the articulation, and on a narrow kind of neck.

A sanious matter abundantly oozed from thence and other points. By the means of a fine sponge, the whole being washed off with cool water, the humerus offered a more yellow colour, it was tumefied with asperities, and its cartilages were corroded away. This is the part which Mr. Champion determined to take off by dissecting with great attention the fibres of the brachialis internus that were adhering on the opposite corresponding face of the bone. He introduced the handle of the scalpel with which he had circularly divided the periosteum, and upon it sawed off the humerus with promptitude. The greatest degree of inflexion being directed to the elbow, from below upwards, the divided fragment was made to protrude, and thus was easily carried off. But this part of the operation proved to be incomplete. Our surgeon found that the caries reached much above the reticular texture which was untouched; he therefore did not hesitate to raise it and saw off an inch more of the bone.

Let us now follow our intrepid surgeon in a still more intricate search of the disease he has undertaken to root out. He orders to pull the elbow forward, elevate the fore-arm upwards the better to examine the extremities of its bones. He feels that the head of the radius and its neck slightly rubbed with the gouge was sound; but the eminences of the ulna were carious all over their internal surfaces and below them. He therefore makes a deep incision on the internal side of the olecranum, and raises another flap as it were, on all its circumference, which being kept back by a cloth-retractor, he carries off that bone entire with a small saw, taking as much as possible of the coronoidal apophyses without touching to the radius, which he still hoped to preserve. Having well washed this sawed surface which on its side, corresponding to the radius was sound, he perceives that it was internally yellowish, brittle, and oozing black blood: to make short of it, with the chissel and mallet he chops off all that remained in the least carious, without sparing the coronoid, of which he left only one third part; but the radius remained entire. The great objects of the operation were all strictly accomplished, there remaining in the articulation not the smallest point of caries, nor any other cause of disease.

All gaping parts of the wound being brought together, the patient was at last rested upon a bed where a stitch was fixed at each inferior angle of the quadrilateral flaps, and one more in the middle of each lateral incision; not the least hæmorrhage took place, when the tourniquet was loosened. The dressings simply consisted of two large tents of lint, and two compresses anteriorly and posteriorly united by an eight-tailed bandage, the arm was placed in semi-flexion, on a long oat-straw pillow, and a hoop covering thrown over it.

We might well observe that the completion of so difficult an operation, after which an enlightened mind cannot apprehend any perplexing circumstance nor cause of failure, must afford as much satisfaction as the successful struggle of a combat, or as that of rescuing a fellow-creature from an impending death. Mr. Champion met with no more accidents in his patient's recovery, except a state of spasmodic retractions of the humerus, and of the corresponding deltoid. This symptom lasted three days, and was remedied by the addition of another pillow under the arm, which raised it almost to the level of the shoulder.

An antiphlogistic but nourishing diet, mostly by mucilages, was liberally prescribed. On the third day, the dressings were removed with the greatest attention to the connection of the parts, without discovering the least equivocal symptom. On the 5th and 6th the stitches were taken off. As yet, the fever had been symptomatic only, and the patient had never lost his rest by excessive pain. On the 7th, granulations appeared, and on the 20th, the ends of the bones remained one inch only apart. By holding the hand, the arm could be raised without the least bent in the articulation. On the 40th day, there was hardly any vestige of the internal wound, and the original swelling of the elbow had entirely subsided. On the 45th day, the patient could walk home, at the distance of four miles and an half with his arm in a sling, and soon after, the healing was complete. The ulna was in contact with the humerus; all degrees of flexion were nearly perfect; three months after, Hyardel was able to mow about fifty rods of a meadow in a day: to thrash corn, and to carry a bucket of water. The only

imperfections remaining were in the movements of supination and pronation which were partly composed of a little rotation of the humerus, and twisting of the new joint; the two last fingers also could have but half of their natural extension.

Should Mr. Champion ever read those pages, we respectfully request him to accept with our admiration for his unrivalled skill, our share of thanks, for the great benefit he has conferred on a fellow-creature.

He has added many useful observations on the nature of the case and mode of operation, a part of which we think necessary to mention.

The setting posture of his operated patient was not a matter of choice, nor would he pretend to recommend it, on a similar occasion. He had previously provided for an appropriated bed, when finding some local inconveniencies, he trusted, not in vain, on the fortitude and patience of Hyardel.

To form the quadrilateral flap, he extended his incisions very near the insertion of the muscle triceps, by the advice of Mr. Moreau, hoping that he could thereby better examine the bones of the fore-arm and operate upon it. In a diseased articulation where there existed so much swelling, it was important to provide for sufficient room.

He neglected the two pyriform excrescences arising from the lower articulation, persuaded that they would soon die away, after the removal of the carious bones. He moreover consulted on that point with medical gentlemen present.

Mr. Champion boasts of two great surgeons only, Moreau and Subatier, who approved and authorised the excision of bones in ginglymoid articulations. He hopes that its preference to the amputation of a limb may not be waved off by exaggerated difficulties in the execution, nor by the supposed prodigy in the regeneration and restoration of parts, which nature is never failing to promote, as wonderfully in this case as in many others, by no means rare in surgery. F. P.

Account of a New Mode proposed for Curing Cataracts.

Extract of a letter from A. H. Stevens, M. D. of New-York, to Dr. Mitchill. London, March 7, 1812.

Mr. J. Saunders has published in London, a work on the eye; in which, he establishes a new mode of operation for the cataract, different from extraction and depression. It is founded on the principle of the great dissolving and absorbing power of the aqueous humour contained in the anterior chamber.* A small needle, flattened at the point, is introduced either behind or through the transparent cornea, to reach with it through the pupil, the anterior part of the crystalline. The latter mode is stated to be preferable. The capsule being torn a little, the needle is withdrawn, and the whole operation is finished; as in about six weeks more or less, according to the seat and structure of the cataract, the aqueous humour will dissolve and absorb all the opaque matter in the crystalline. Two similar operations are generally requisite to complete the cure.

The chief accident liable to occur, is the protrusion of the lens against the iris, either during the operation, from too much pressure upon the eye, or subsequently after a cure is partially effected, by some part of the circumference of the capsule being removed, leaving the lens thus open to the power of the aqueous humour, without any thing to keep it from falling forward, to the injury of that delicate and important membrane. Both

* Twelve years ago, Professor Antonio Scarpa, had distinctly established, as an unquestionable doctrine, that in three sorts of Cataract, which he called *Cascosa, Lacticinosa, Membranosa*, there was nothing more to do than to lacerate the anterior surface of the capsule, with the point of the needle, and with it to transport all the white, opaque, and membranous flakes of the crystalline, in the anterior chamber, where by the power of the aqueous humour, they soon would be dissolved and absorbed. Vide *Malattie Delli occhi*, page 188.—Pavia, 1801.

The same phenomenon has sometimes taken place for the whole crystalline, falling accidentally in the anterior chamber; and has been noticed in the Memoirs *de l'Academie de Chirurgie*, tom. II. page 579, by Wenzel, and in Wm. Hey's Surgery, page 66.—Edit.

these effects may be easily avoided, and this new operation has the merit of simplicity and safety. Mr. Saunders and Astley Cooper, speak in the highest terms of its success. It has, moreover, this advantage, that it applies to those hitherto hopeless cases of congenital and chiefly capsular cataract which are so common.

Francis' Dissertation on Quicksilver medically considered.

This handsome tract of fifty-six pages, is the inaugural exercise of John W. Francis for his promotion to the doctorate, by the College of Physicians and Surgeons, at the graduation, on the 14th May, 1811. He proposes to exhibit a concise sketch of the natural and medical history of mercury. For this purpose, after a few introductory remarks, he discusses his subject under the following heads. 1. The natural and medical history of mercury. 2. Its curative action. 3. Its effects in its natural state, and its abuse in certain diseases. Under the first, the author gives an account, which is highly commendable as an evidence of his learning, industry and research. Under the second, he evinces his acquaintance with the various opinions of its action, entertained by ingenious and distinguished medical teachers; and he ascribes its curative action to its general and stimulating effect upon the excretory organs of the whole system; and more especially if we understand right, upon its excitement on the exhaling vessels of the skin, and its power to produce diaphoresis.

The third head comprehends the author's remarks on the administration of quicksilver. It is divisible into two sections; the former of which treats of the metal in its ordinary or crude state, and the latter of its combinations chemically, with other substances. In both states he considers it as operative upon the human body. And why should it not be, when fluid quicksilver is a combination of the metal with phlogiston, and the several powdery forms are associations with oxygen, and some-

thing else? In p. 29 and seq. the author recounts and laments the unhappy consequences resulting from a large and unrestrained use of mercury. His censure on the general administration of it, mixed with severe strictures on its exhibition in febrile diseases, and more especially in the yellow fever. The author's doubts as to the utility of an abundant prescription of quicksilver in the yellow fever of the United States and the West-Indies are stated in his pages 37—43; and he concludes that the remedy has therein been grievously abused. Mercury is no specific for this gigantic distemper; and even when it salivates, it does not certainly cure. Spitting, as he thinks, is incomparably less efficacious than sweating.

Mr. F. condemns with no less force the indiscriminate administration of mercury in intermitting, remitting and inflammatory fevers. He seems not to approve the doctrine of a unity of disease to be combated with a single-handed remedy, and he extends his disapprobation to the almost unlimited employment of it, in some form or other, for diseases of specific contagion. Even in lues venerea, he questions (p. 46) " whether the mal-administration of the remedy has not produced as destructive consequences as the disease itself."

" The cure of syphilis, he thinks will be best effected by promoting the action of all the secretous vessels of the body, and more especially those of the surface." The best of the preparations for this, he believes to be the *murias hydrargyri*, or corrosive sublimate; and extensive practice is cited to corroborate the opinion.

We should gratify our readers with an extract from this ingenious and able performance; but as the press of materials restricts our room, we recommend to them a careful perusal of the entire essay, from beginning to end.

Cheeseman's Experiments on the medical virtues of Gold.

The pages of our vol. 15, no. 2, announced to the American people, the practice of M. Chrestien in cu-

ring the venereal disease by gold. Further information was given in page 400 of the same volume. Since those publications were made, an inaugural dissertation has been written by John C. Cheeseman, and offered to the faculty of Queen's College, as one of his academical exercises for obtaining a doctor's degree, in that seminary, on the 28th September, 1812.

The author lately officiated in the capacity of house-surgeon to the New-York hospital. He enjoyed opportunities peculiarly favourable for making trials with the new remedy. He has employed them to great advantage. In the present work he has given the result of the practice. It is very favourable to the most precious of the metals, as a medicine capable of eradicating syphilis. And with us who know the publicity of the cases he describes, as well as the discernment and candour of the relator, his testimony is of great value. The preparation prescribed to these patients was made by Sadler the apothecary in this manner: a certain weight of gold was dissolved in the nitro-muriatic acid, and evaporated nearly to dryness; then an equal weight of muriate of soda was added; the mixture thus consisted of equal parts of the muriates of gold and of soda; to these was added water enough to liquefy them, and this was again expelled by a gentle heat in a sand-bath. The residue is the officinal muriate of gold. The dose is from the fifteenth to the fourth of a grain, once in twelve, eight or even six hours, according to circumstances.

That our readers may the better comprehend the mode of proceeding, we insert the cases, Nos. 1 and 2.

Case 1.—W. F. born in New-York, aged 18 years, was admitted in the N. Y. Hospital on the 25th of October, 1811, with chancres on the prepuce, and one on the pubes: which made their first appearance about two months ago. He had taken no medicine for them. He was directed to keep the ulcers clean, and dress them with simple ointment spread on lint, and to take a pill containing the 15th of a grain of the muriate of gold morning and evening.

Novr. 1st. The plan prescribed has been regularly pursued without producing any uneasiness in the sto-

mach or bowels, and with an evident good effect on the chancres, that on the pubes being healed, the others getting better.

Novr. 5th. Still continues mending.

Let him take three pills a day.

Novr. 8th. The penis having been swollen, a poultice was applied which has diminished the swelling very much: chancres are improving.

Continue the medicines.

Novr. 14th. Continues still to mend.

Novr. 23d. Ulcers are all healed.

To insure success let the pills be continued two weeks.

Novr. 30th. Having been attacked with a slight affection of his throat, a gargle was used; and the volatile liniment directed to be applied to it.

Continue the pills and the other remedies.

Decr. 6th. The disease of his throat is removed, and he is to appearance in perfect health.

Discharged cured.

Case 2.—T. C. Born in Ireland, aged 23 years, was received in the N. Y. Hospital on the 22d of October, 1811, with two chancres on the prepuce, and a very large one on the pubes. He has been affected about six weeks, and has taken no medicine for it.

Let him take a pill of the 1-15th of a grain of the muriate of gold in the morning for three days, and then one morning and evening.

Novr. 5th. The pills produce no perceptible effect on the stomach or bowels, or any of the excretions. Chancres on the prepuce healed, that on the pubes mending.

The granulations being exuberant, let them be occasionally touched with lunar caustic, and dressed with lint spread with the common ointment.

Let him take three pills in a day.

Novr. 8th. Continue the medicines. Cleanliness to be particularly observed, and the caustic frequently applied.

Novr. 14th. Complains of pain in his side, which is increased on coughing, or taking a full inspiration. Pulse a little accelerated but regular; skin moist; tongue white.

Let him take of the cathartic solution a tablespoonful every hour, till it operates, and drink freely of bran tea; apply a blister to the part affected. Continue the pills as before.

Novr. 23d. Affection of his side quite relieved.

Continue the pills.

Novr. 30th. Ulcer healing rapidly.

Continue his medicine.

Dec. 7th. Discharged cured.

The author has raised some objections against the use of mercury as a specific, in syphylitic complaints, with a view no doubt to inspire a greater confidence to this new specific. "Mercury," says he, "produces debility and disorders which often require much time to be relieved." He has supported that assertion by the authority of Dr. Mathias, the author of a work on mercurial diseases.

In a note on this subject, vol. 15, page 201, one of the editors has already taken the liberty of disproving similar objections as pointed out by Dr. Chrestien of Montpellier, who has first so much experimented on the medical property of gold. He has suggested that the bad effects and dangers of mercurial treatment, arising from seasons and temperament, can be well remedied and avoided. It is not irrelevant to add, that with a proper mode of exhibition of mercury and necessary precautions, with which every practitioner ought to make himself acquainted, there is nothing to apprehend from either internal or external use of mercury. Several physicians of this city have, during last winter concurrently conducted the treatment of a rare and obstinate syphilitic case, in which the patient has been during eight months almost uninterruptedly under the influence of mercury, without ever experiencing any bad effect or the least inconveniency from it. Should gold prove really to be an effectual and not a palliating remedy, there would remain but a few circumstances in which it would be highly preferable to mercury, these are, old age, obesity, and complications with scorbutic affections.

We find that seven successful cases adduced by Dr. C. were treated in the hospital from whence they were discharged, when cured. It would be very desirable

that a longer observation of the same patient could have authorized him to affirm that none of them had afterwards experienced a relapse or re-appearance of the disease. So far Dr. C. is certainly entitled to great merit for his industry and attention to a very interesting subject, which probably when sufficiently experimented upon, may enrich our materia medica with a valuable remedy not only for syphilis, but for a great variety of lymphatic diseases for which it has been upheld, and in which we remain absolutely deficient.

Important publication on the Brain and Nerves.

Messrs. Gall and Spurzheim have commenced the publication of their great anatomical work on the brain and nervous system. The first volume, which is now before us, treats chiefly on the *structure of the brain.* In the second, it is intended to explain the general principles of its *physiology;* and the doctrine of the organs at large will be displayed in the third.

The first volume is a large quarto of more than 350 pages, besides a copious preface of about 60 more, and is embellished with 17 elegant plates. It was done at the press of Schaell, at Paris, in 1810.

From such examination as we have been enabled to make of its contents, we feel ourselves authorized to observe that it contains much critical, and some controversial matter, and the result of a great deal of industrious and accurate research. It seems, indeed, to be a valuable addition to the list of anatomical writings, for the particular way in which dissections of the brain and nerves have been made, independent of the ingenious, novel, and singular doctrines which Mr. Gall has deduced from them.

BOTANICAL.

The hand-flower tree of Toluca.

Baron Lescallier, the consul-general of France, sometime in the year 1805, translated into the French

language, a tract on the *Chiranthodendron** of Mexico, a tree which produces some of the most curious blossoms of the whole vegetable creation. The original was written in Spanish by Don JOSEPH DENIS LARREATIQUI, a student of medicine in New Spain. The learned and excellent translator has illustrated the subject by two coloured plates, which are admirably executed. It is entitled, *Description Botanique, du Chiranthodendron, arbre du Mexique, nouvellement connu, &c. &c.*

There is no positive proof that this rare production of the western hemisphere grows naturally any where but at Toluca. This town is situated about twenty-four French leagues west of the city of Mexico, and stands on the top of a very dry and stony mountain, very bare of trees and shrubs, and not productive even of many annual plants; and there the botanist finds but a solitary individual of this rare and singular species. In that bleak and exposed situation, this plant, the parent or the survivor of its race, stands alone, the admiration of all who behold it, an aged and stately tree. Its peculiarity consists in its stamens, which are five in number, arising from a cylinder inclosing the pistil; and assuming the appearance from their crooked figure and sharpened extremities of a birds' claw with its talons: and also in its wreath, or corolla, which is monopetalous, bell-shaped, and permanent, of a dusky red without, and of a bright red within, and of the size of a common lilly. This property of the petals to preserve their form and colour, until the fruit is ripe, has induced some botanists to call it a calyx. And their solidity and beauty, have induced the natives and others to pluck them and carry them away, to the great detriment of its fructification and multiplication by seeds.

It flowers late in autumn, and continues blossoming during November, December and January. It preserves its leaves all the year round; is exceedingly difficult to propagate, and will soon probably become extinct.†

* Chiranthodendron pentadactylon Monadelphia 5-dria. Linn.

† Baron Lescallier, the author of many valuable works on naval construction, &c. on various branches of literature, and of translations of curious oriental books, has also fully investigated the Geology of the island of Guadaloupe, in a work read to the physical and

flatulency, or uneasy sensations, some common bitter, such as gentian, may be taken with it:—if it purges, a little opium may be added."

"The mode in which magnesia operates in preventing the formation of stone or gravel, Mr. Brande believes to be, by preventing the formation of acid in the stomach."

"Where there is a stone actually formed in the bladder, it is of advantage, (if the case is a proper one for the use of magnesia,) by preventing the increasing in size."

"The dose of magnesia must entirely depend upon the circumstances of its case—*generally*, five grains, twice or thrice a day to children below ten years of age; fifteen and twenty grains to adults."

"Mr. Brande has always given common magnesia. The calcined may occasionally be used with advantage. Any omission of the remedy for a time must entirely depend on the state of the patient."

"In regard to diet, no particular regimen is necessary. Animal food may be taken in the same quantities, and of the same sort as usual. The patient should avoid strong wines, such as Port and Madeira, and indeed should abstain from pure wine altogether. Spirits should not be taken in any form. Lemons and vinegar need not be absolutely avoided, unless the bowels are too open. Oranges and other fruits, when ripe, may be taken."

There is every reason to hope, from the success that has already attended the application of this remedy in various cases, that it may prove an effectual means of preventing the greatest proportion of calculous complaints; and it is impossible to foresee, to what a state of improvement it may yet be brought, in the course of farther experience, when the attention of a number of able and learned men, (as I trust will be the case,) is directed to its application.

Perhaps there is no disorder to which mankind is liable, for which nature has not provided some remedy, or at least some means of alleviation, though, in both respects, much remains to be learnt; and any discovery that can be serviceable in calculous complaints, from the infinite distress they occasion, must prove, in a peculiar

manner gratifying, to every real friend to the happiness of the human race.

I have the honour to be, &c.

JOHN SINCLAIR.

A Remedy for the Croup, and Hooping Cough.

It will be recollected that, in the year 1807, the Emperor of France, ordered that a prize question be offered to the learned in medicine, on the disease called the *Croup*, promising a premium of 12,000 livres to the author of the best memoir on its nature, means of cure and prevention; and admitting the concurrence of any candidate throughout the world. A committee of twelve members of the faculty of medicine of Paris, was formed, and constituted judges of all performances that could be obtained on that subject, viz. Desessarts, Portal, Hallé, Pinel, Thouret, Lepreux, Corvisart, Chaussier, Leroux, Duchannay, Royer-Collard, and Balleroy.

Among a great number of memoirs transmitted, eighty-three were selected and admitted as fully answering to the proposed question and conditions, as enacted in the official notice. The committee having scrupulously considered and compared their respective merit, fixed upon two treatises perfectly superior to all others, but so equally satisfactory in point of composition and utility, that no difference of claim could be stated in the adjudication of the premium, which was consequently divided between Mr. Jurine of Geneva, chief surgeon of the hospital of that city, and J. Abraham Albers, M. S. D. of Bremen, of the imperial academy of Vienna.

The same committee thought proper, moreover, honourably to mention three other performances, which were next to the first in point of merit, facts, and useful researches.

In fine, a sixth essay could not be compared to the others, but it indicated an easy remedy as a radical specific of the croup. On this the committee would not emit any opinion, but they thought it advisable formally to invite physicians of all nations, to employ and

try the same whenever they could, and not only in the croup but in the hooping cough and pulmonary catarrhs, requesting that they would report to the minister of the interior the favourable results of their observations, with a view no doubt to lay them under the consideration of H. M. for an adequate reward to the discoverer of the remedy. Such are the principal points stated in the report of the minister to his sovereign, dated November 20, 1811.

The remedy is an alkaline sulphur, or *sulphuret of potash*, called also, *liver of sulphur*, recently prepared, and of a brown colour. it is equally effectual in the croup and hooping cough; it should be mixed with honey, and given in the dose of from 6 to 10 grains morning and night. As the disease begins to yield, the same is diminished and given once a day only. The intensity of symptoms and danger are to regulate the quantity more than the age of the patient. Each dose should be confined in a phial, and mixed just as it is administered; in the case of very young infants, anoint with it a finger which must be gently kept in its mouth until the mixture is sucked up; it may also be mixed in a spoonful of milk or syrup, and even made up in boluses. When children are grown, they will more easily swallow it in this last shape. On the first and second days there will be an evident relief; and a continuation of the remedy, after the symptoms disappear, is insisted upon to prevent a relapse.

This chemical preparation whitens the lips and the inside of the mouth, causes much heat in the stomach, and the first dose mostly provokes vomiting of a viscous kind of matter, sometimes concrete, and to which the sulphuret of potash imparts a tinge of green cast; a suckling infant is not to be deprived of the breast, and light liquid food is recommended to children.

Cholera Infantum.

Thinking it to be our duty to notice the happy effects, which may frequently be obtained from simple and easy means in those diseases, the characters of

which often vary and baffle the most appropriate remedies, we have lately heard with pleasure, from eminent practitioners of this city and neighbourhood, that a strong decoction of a plant, thickly growing on the opposite Jersey shore, had unexceptionably proved a radical cure under their care, of the cholera infantum, which so often proves epidemically fatal during hot weather. We have seen this annual plant in an advanced state of fructification, projecting a multitude of verdant stalks, which are ramified and covered with small white blossoms. These in a few days, let loose in the air their small seeds affixed to a panicula. We suppose that from this circumstance, the plant derives its name of *seed-weed.* The leaves are few, oblong and serrated, growing in the lower part, they give to the taste a pungent flavour, much similar to that of lemon peal. Upon inquiry, we find that it belongs to the class of *Syngenesia*, is called *Erigeron canadense* in the catalogue of Elgin Garden, and is known in common language by the name of *fleabane;* and that for the same complaint, even for menorrhagia it is recommended in R. James' Dispensatory, under the name of *Erigerum senecio.* From the information received we may hope, that this well designed notice may prove useful to the afflicted parent, and to the perplexed physician.

Pulmonary Catarrh.

In the extract of Hufeland's Journal, vol. xxx, xxxi, by professor Ebbeling of Hamburg, communicated to the editors, it is stated, that a woman of sixty years of age had suffered for six months by an obstinate cough, attended with purulent expectoration; she could experience no relief from medicines, until she took 1-4 grain of *saccharum saturni* with a scruple of sugar, given every third hour. The disease was entirely removed, after she had taken six such powders. When nine months after, she was again falling into the same sickness, she was cured by three powders.

This is the first time we find this remedy recorded for a pulmonary catarrh, although for more than twelve years, it has been used with advantage, by many physi-

cians in the United States of America, in hæmoptysis, in uterine hæmorrhage, and in chronic dysentery; of its efficacy in the last disease, we have seen a remarkable instance. But it produced in the end a severe attack of *colica pictonum*, which will always be the case, if the remedy is continued too long, even in the smallest dose possible.

Alvine Flux of Hot Climates.

Mr. M. Dalmas published during 1808, in Paris, his "Dissertation *sur une Espéce particuliere de diarrhée.*" We notice it as professing to be a practical treatise on the *diarrhœa of the Antilles*, or of *the tropics*. After describing this troublesome, exhausting and dangerous disease, Mr. D. rejects Peruvian bark, diascordium, columbo, simarouba, cascarilla and opium, as incapable of effecting a cure, and rests the recovery of the patient upon a diet consisting of salep boiled with milk for food, and of chalybeate water for drink, without the employment of any other remedy.

He thinks that salep is preferable to sago, rice, or to any of the pulpy or farinaceous substances of that class. A drachm or more is nicely mixed with a little crude milk, and then boiled with a pint and a half more, or any other quantity that is prescribed for the twenty-four hours. The salep and milk ought to be incorporated over the fire, to the consistence of cream. If kept constantly stirring with a wooden spoon, fifteen or twenty minutes cooking will be quite enough. He thinks this composition possesses a truly reorganizing virtue, and wishes the sick to take no other food. And he relates various examples of its curative effects in West-India fluxes, as well after their arrival at New-York, as in St. Domingo. It may be sweetened with a little sugar. Two or three weeks of steady and persevering regimen, are often necessary to produce the salutary change.

The chalybeate water (*l'eau ferrée*) must be drank cold, and without the addition of wine, or of any other liquid except milk. The quantity may be a pint or more daily, according to circumstances. It is a pity

that Mr. D. has omitted the receipt for tincturing his water with iron.

A Trap for Intestinal Worms.

It is not without a smile, that we make use of such expression, to designate a small round metal button, which was accidently swallowed by a boy of five years. Through the eye of this button, a ring of about the 10th of an inch in diameter, a lumbric crept along, one third part of its length, until being completely wedged and fastened struggled much, and thereby threw the little patient into anguish, heart sickness and convulsion for which medical aid was immediately procured.* He having declared that he had swallowed inadvertently the button; a smart purge was administered which in a few hours relieved him; passing at last, a worm caught *in the trap*, which measured nearly 16 inches. In seeing this curious object, we were led to the following reflexions. In what space of time can a lumbric grow to that size? During its existence, is it not constantly propelled downwards, by the natural functions and movements of the bowels? yet by winding itself up, in search of food, does not the worm overcome that power and secure itself in its habitation? A round and hard body could not descend, if it was not constantly pressed downwards by the elastic parietes of the intestinal tube; therefore, would not a round metallic ball of a proportionate size diametrically bored in three or four different directions, so as to present six or eight opened faces, successfully prove an easy *trap*, or an anthelminthic ball at least, for the lumbrics?——— *Risum teneatis amici.*

Strangulated Hernia.

Whether the narcotic property of certain vegetable substances, such as opium, digitalis, hyosciamus, stra-

* Dr. De Angelis

monium, upas, &c. is the effect of a virulent principle, as believed by many physiologists, or a stimulating power itself, which like alcoholic fluids, may gradually increase excitement to a degree of indirect debility, is a question not yet satisfactorily determined. It is a fact, nevertheless, that by repetition, those vegetable poisons, (the last mentioned excepted, with which we are not sufficiently acquainted,) lose their soporific efficacy, exercising only their respective stimulating power, which itself wears away by the same cause. Thus, habit disrobes opium of its deadly power, and changes a great dose of it into a mere exhilarating ingredient. Hence, James Sanders, M. D. of Edinburgh, has found it the matter of a treatise, to point out and remedy the inflammatory action of digitalis, which "can exhaust the contractility of the heart and arteries more speedily than any other substance with which he is acquainted."* What immense advantages, with the help of a correct judgment, may be derived from those successive and opposite effects; and how they should be promptly applied, may be concluded by the statement given to us by Dr. Joshua J. R. Birch of this city. Several cases of alarming strangulated hernia, had resisted all the well applied processes for reduction, when by a dose of a hundred drops of tinct. of digitalis, the pulse sinking, and a complete state of asthenia being induced, every possible resistance has been subdued, and the hernia was happily reduced.

From the Journal de Medicine of Paris, for January, 1812.

Large Biliary Calculus.

A woman of fifty-two years, had undergone much violence in her domestic life, much sickness, and a long diarrhœa, with a pain under the right breast and hysteric affection. She had often received medical

* Vide Treatise on Pulmonary Consumption, and Inquiries on Medical Properties of Digitalis, page 307.

aid but no kind of very active remedy; when in the ninth month of her illness, she discharged from the rectum a calculus of the size of a pigeon's egg; it was hard, brown and polished. On examination under its surface, it appeared softer, transparent, crystalline; with laminæ from the centre to the circumference. Chemical test proved further that little more than the heat of boiling water rendered it fusible, that it was inflammable like oil, and soluble in boiling alcohol. Æther, saponaceous solutions, fixed and volatile oil, could equally dissolve it. Thrown on burning coals, it would emit the odour of musk. It had, in short, all the characters of a biliary calculus, of the 5th class, of those described by Fourcroy, and more common among women.

The first question is whether this calculus, which was formed in biliary reservoirs, and expelled before it could obtain such voluminous size, had acquired additional concentric layers in the intestinal tube, where no point of adhesion could prevent its expulsion by the peristaltic movement, and where it was not immersed in the pure biliary fluid necessary to its formation? To this question we obviously answer negatively. The second question is, how it could be squeezed out from channels not as big as a small quill in the natural state, and after having been crystallized to the bigness of a pigeon's egg? Our astonishment is suspended by the possibility of this last effect, if we recollect that the celebrated Morgagni has seen the *ductus coledochus communis* of two inches in diameter. In his Pathological Anatomy, Bailly mentions that the same with the hepatic, have been of an inch. Bichat assures us that the hepatic channels are susceptible of an expansion vastly greater than that which is natural to them, and sometimes equal to that of an intestine. Other authors are at hand to authorize this opinion; Columbo, Glisson, Bianchi, Hoffman, Haller, Boerhaave, &c. Yet it is agreed that such a calculus engaged in those *ducts* most frequently occasions death. Vid. p. 14. These anatomical researches with the well known power of nature to expel large bodies from narrow passages, when a strong constitution helps the progress of slow and gradual com-

pression, leave no doubt as to the origin of this biliary calculus.

MEDICAL EXTRACTS.

One of his majesty's cruizers, employed during the present winter on the north coast of Spain, received on board, at Corunna, a passenger, whose disastrous fortune had compelled him to seek an asylum in Britain. This unfortunate individual had been exposed to such extreme suffering, that he had become a prey to almost all the diseases attendant upon poverty and filth. The humanity of British officers had not been wanting in endeavouring to lessen these; but it happened, that every article for psora having been expended, separating him from the unaffected was the only medical expedient which could then be adopted, until the arrival of the vessel in England.

The surgeon, however, having occasion to administer medicine to him for another complaint, received the infection, which soon betrayed itself on his hands, wrist, and arms. As they were destined to the port where his wife, children, and relations anxiously looked for his return, after a long and harassing absence he became extremely desirous of removing the eruption, and therefore had recourse to the small quantity of the muriate of mercury remaining in his possession, forming a solution in alcohol, in the proportion of four or five grains to the ounce, with which, morning and night, he very freely washed the affected parts. By its use, the eruption began to disappear on the 5th day; but on the 7th, he felt himself extremely feverish, having an intense headache, flushed countenance, full and quick pulse, and great heat on the skin. In the course of the night, he was attacked by violent pain in the stomach, attended by vomiting and painful retching, which continued with little interval the whole of the night. In the morning, these were somewhat milder, but the respite was of short

duration, being speedily attacked with diarrhœa, attended with tenesmus. At this period the ship arrived in port, on which I took immediate occasion to visit my friend, whom I unexpectedly found in the above distress. His pulse was small, quick, and tremulous, his countenance exhausted and sunk, violent and frequent retching, a constant desire to go to stool, the matter evacuated being scanty, chiefly blood and mucus, but above all the debility seemed particularly alarming.

These complaints he had justly attributed to the unguarded application of the solution to the surface of his body, and had therefore taken large doses of opium, repeating them at intervals. As however, they had only effected a partial relief, and symptoms were still extremely urgent, I prepared a hot bath for him, with as much speed, and in the best manner which the conveniences of a ship could afford. After this I gave him a sudorific, and as soon as the diaphoresis commenced, covered him carefully in warm blankets, without administering any diluents, apprehensive that they might again excite the action of the stomach.

When the sudorific process had been continued for some time, all the symptoms became evidently milder, and, as he was extremely exhausted, I gave him a large dose of opium in substance, which procured him a comfortable and refreshing sleep.

When I saw him on the following morning, he continued in a state of recovery; but the exhaustion was great, and he complained of his breath being extremely fetid, and of a bitter taste in his mouth. The next day his mouth was worse, the gums swollen, and several of his teeth loose; and on the third morning after I first saw him, being the tenth since he had applied the solution he was in as complete a salivation as ever was produced by the common mode of introducing the medicine into the system, and which ran the same course.

There can be no doubt, that in this instance the same inference is afforded, as in the case related by Dr. Anderson. It is evident that the derangement of the stomach was excited by the muriate of mercury having been introduced into the system through the cutaneous lymphatics. The quantity introduced can-

not have been considerable, and it therefore affords an important practical caution. That it would have terminated fatally, had suitable means not been adopted, is likewise an evident deduction. The treatment was the same as in Dr. Anderson's patient, with the addition of the sudorific process, which possesses all those high advantages in dysenteric symptoms, adduced in its support by Dr. Moseley.

In one of our naval hospitals, where the metallic salt is sometimes given in the more stubborn cases of syphilis, I have observed the ptyalism to be uniformly more severe; that its exhibition is always some time or other attended by severe affection of the bowels; and that the debility is greater and more difficult to overcome, than in those cases in which the other preparations of the mineral are administered.

Deal, 23d February 1812.

Edinburgh Medical and Surgical Journal.
January, 1812.

Case of Palsy cured by titillation, with some observations on the effects of Titillation on the Nervous System. By James Wardrop, Esq.

A man twenty-three years of age, in the month of April 1810, when with the army in Portugal, was seized with a fever, which was at that time epidemic among the troops. In consequence of repeated attacks of the disease, he remained for nearly twelve months in the different military hospitals of Coimbra, Lisbon, &c. Besides what he described as the febrile disease, he had a severe affection of his head, for which he was bled profusely; and when he returned to Britain, he had a complete paralytic affection of the left side. By living in the country, he regained a good deal of strength; and he was able to move, though in a very small degree, the paralytic arm and hand. Soon after this, the complaint in his head returned with its former violence, but by copious and repeated bleedings, the giddiness and stupor, which were the chief symptoms, were removed. The paralytic

affection of the left side, during this attack, became more complete; and although his general health improved, yet in the beginning of August last, notwithstanding the most rigid antiphlogistic treatment, and a continued use of blisters and electricity to the affected side, the limb continued feeble, and his arm and hand perfectly useless.

When I saw him at this period, which was the middle of August last, eighteen months from the commencement of his illness, he had a marked halt in the left leg, and the left arm hung motionless, not having the power of even producing any sensible movement with any of his fingers. The arm, too, was considerably wasted; the hand œdematous, with occasional pains about his shoulder; his pulse a little full and frequent; his tongue furred, and a tendency to headach. After completely emptying his bowels by aloetic purgatives, and cupping him in the neck, by which treatment all the febrile symptoms, and those of determination of blood to the head, seemed to be removed, I began to try the effect of *titillation*.

The process which was employed to titillate was extremely simple. A person was directed to draw a feather gently over the surface of the skin on the palm of the hand, until it excited laughter; and I purposed that this should be done three or four times a-day.

On trial, it was found that the desired effect could readily be produced. At first, it was found that a considerable time was necessary to excite laughter; but the more frequently the application was employed, the more quickly it was accomplished. He found, too, that the laughter was produced much more speedily when he was most easily excited by applying the feather to the part of the palm where it is marked by the flexion of the thumb.

The beneficial effects which the titillation produced on the paralytic arm, exceeded my most sanguine expectations.

After employing it a few days, he began to feel as if the limb were reanimated, a sensation which lasted a short time after each fit of laughter. This sensation was soon followed by a power to produce a sensible and voluntary motion of the fingers, which daily increased:

so that in about a month from the commencement of the use of the titillation, he could grasp his hand with a moderate firmness, and move, in like manner, the elbow and shoulder-joints. After this period, the strength of the limb was rapidly regained; and in two months from the commencement of this treatment, I met him in the street carrying a bundle under the affected arm.

The titillation was also used to the lower extremity of the affected side, the feather being applied to the sole of the foot, where it failed not to produce a speedy and great degree of laughter.

Besides the titillation, it ought to be mentioned, that I also advised him to rub the limbs with the dry hand, morning and evening; and this was done with a view not only of removing the œdematous swelling, but also of producing an additional excitement on the skin. I have seen the patient four months after the above treatment had been employed, when he remained perfectly well. I am aware that the event of any new mode of treatment, in an individual instance, cannot be sufficient to warrant any general conclusion. The case, however, seems to me to afford an interesting illustration of the influence which the functions of the skin have on the nervous system, and to open a channel for observation and experiment, in various diseases of that system, which may lead to important improvements in their treatment. Under that impression, I have ventured to lay these remarks before the public, in their present form; and with the hopes that, by their early communication, the good effects of the practice may be established by the ample experience of others.

It may be remarked, before concluding these observations, that a good deal of discrimination must necessarily be employed in selecting cases where titillation is likely to prove beneficial, and in determining the extent in which it may be prudent to employ such a remedy. As long as the paralytic affection seems to depend on an increased quantity of blood in the encephalon, or to arise from any morbid alteration in the structure of the brain, or its coverings, all attempts by titillation, or other means, to recover the power of the paralytic nerves, must be fruitless, if not highly dangerous. Titillation

appears to me to be applicable to those cases only where the primary affection is removed, and where the palsy, which was merely one of its symptoms, alone remains. How far titillation may have an effect in alleviating the excruciating pain of *tic douloureux*, sciatica, and some other affections which seem chiefly confined to nerves, experience can alone determine. Titillation, when employed in the treatment of diseases, must, like other powerful remedies, be at first used with caution; and we are enabled to vary the extent of its effects, from tickling to laughter, or even convulsion.

Every one knows, from personal experience, the two first degrees of its effects. There are, I believe, many instances of its having produced convulsions, and I have heard of one case where it proved fatal. In all probability, the effects of titillation, as a remedy, should be confined to the excitement of laughter, which in old or obstinate cases may be excited even to an immoderate degree.

It is, perhaps, difficult to determine how far titillation acts directly on the affected nerves, or indirectly through the medium of the brain; the latter appears to be the most probable opinion; and if this be found to be the case, it may be equally beneficial to titillate the skin of the sound as of the paralytic limb, obtaining a more extensive, and a more efficacious mode of applying titillation as a remedy. The influence of mental emotion on the nervous system, and on the vital and animal functions, has not yet met with that consideration in the treatment of diseases which it appears to merit. The effects of music in some of the diseases, and variations of the same disease in individuals, under the influence of different mental emotions, prove this influence, and might lead us to expect that great beneficial advantages might be derived, from acting on the minds of those afflicted with such complaints.

London, February 1812.

Ed. Med. & Surg. Jour. Jan. 1812.

PHILOSOPHICAL CORRESPONDENCE.

La Bergerie, 22d June, 1812.

DEAR SIR,

ABOUT the time I left Paris, August 1810, I found the plaisterers of that city employing a new and beautiful stucco to the ceilings and walls, &c. of highly finished houses, to which they gave the name of *factitious marble*, and with much propriety, as the great degree of hardness, the various colours and admirable polish, of which it is susceptible, give it a perfect resemblance to that stone.

1. Of these qualities, *hardness* is the most essential, and this depends on the degree of calcination given to the gypsum, which is the principal ingredient in the composition, and which the French workmen break into pieces not larger than eggs. These they shut up in an oven previously heated, and when they are supposed to be sufficiently calcined, a few of them are withdrawn and broken by hammers. If they exhibit *many* sparkling or brilliant particles, the calcination has not been carried far enough; and if, on the other hand, they exhibit *none* of these particles, it has been carried too far. The defect in the one case and the excess in the other, are equally fatal to the composition; and it is only when a *few* of these shining particles are visible, that this part of the process is well regulated.

2. Though the gypsum be properly calcined, if made into plaister with *simple water*, and applied to walls or ceilings, it will have on the surface innumerable pores and grains easily displaced, which equally prevent a high polish. To cure both these evils, or rather to prevent them, the plaister must be diluted in water, in which *Flander's glue* has been previously dissolved, and which shall be kept in a temperature higher than that of

blood heat. This last precaution prevents the plaister from drying, or in the language of the trade, from setting too rapidly.

3. Thus far the process will give you a stucco of uniform colour; but to make the counterfeit complete, you must now select the colours of the marble you wish to imitate, and putting these into pots, dilute them with glue-water, and then add to them a small quantity of the calcined and pulverized gypsum. When thoroughly mixed, you will form each of these coloured masses into cakes, about as large as the hand. These are then put on their edges, cut into their slices and laid on the rough work, which in all cases, forms the basis for the stucco, which is now polished nearly in the same way as genuine marble. The plaisterer carries in one hand a stone, called the Persian stone; the pumice stone will answer the purpose, (of finer grain than the free stone, and not so apt to granulate,) rubbing with it the work into a high degree of polish, while with the other, he carries over the part which he polishes, a sponge dipped in clean water, and applied every moment to the removal of such particles of the plaister, as may have been raised by the operation. He next goes over the surface with chalk or whiting, reduced to an impalpable powder, (the sponge to be used as before,) and again with a piece of a hat dipped in a mixture of oil and whiting, and lastly, with a piece of a hat dipped in oil alone.

4. If you wish to paint on the stucco, and to represent flowers, vases, &c. you will on a ground of uniform, or different colours, and when nearly polished, apply the outlines of the object to be represented, drawn on paper, and trace these with a powder of a colour different from those of the ground. The outlines, being thus obtained, the paper drawing is removed, and the filling up is completed with the selected colours, diluted as mentioned above, and held in a state of solution by heat; which, if the hand be employed as the pallet, will be sufficiently given by it. This done, the polishing follows as in the preceding article.

5. I have already said, that the basis of this stucco is a rough work of common plaister of Paris. The stucco

itself does not exceed one line and a half, or two lines at most, in thickness.

Nothing can exceed the beauty and cleanliness of this composition, which cannot be distinguished by the eye from the finest marble; which like marble, requires only a sponge of clean water to remove fly or other dirt, which may attach to it.

I am, sir, respectfully yours,
JOHN ARMSTRONG.

DR. AKERLY.

EFFECTUAL MODE TO PRESERVE BLOOD.

From the Transactions of the Medical Society of Marseilles. Communicated by a member, to the editors. Aug. 11, 1812.

THE author, Mons. Poutet, was led to this discovery by his attempts to provide sugar-refiners with very fresh serum, for clarifying. He obtained it by the combustion of sulphureous matches, so as to expose the blood to the absorption of two or three times its bulk of sulphurous gas. With this process he enabled himself to present to the society a specimen of blood kept thirty days, in a perfect state of preservation. Mr. P. has tried all the modes and chemical agents formerly employed for that purpose: but he found them ineffectual, or retarding but little the putrefaction of that fluid. Mineral acids in the proportion of 1-48th will coagulate it and disengage its carbone. Muriat of soda and metallic oxyds cannot prevent the corruption of the serum. He has found that vinegar, or a mild acetic acid, in the proportion of 1-12th, preserves blood as well as sulphurous gas does; but by the last it is more soluble in cold water, which it beautifully reddens, and the albumen never coagulates, unless it is exposed to the heat of the liquid that is to be clarified, and which receives a remarkable diaphanity. Finally, the acetic acid combining with the lime of the saccharine matter, forms a salt soluble in the syrups, while sulphurous acid gas produces calcareous sulfits perfectly insoluble, and isolated by the albuminous *plexus*, during clarification.

Discussion in France concerning the Croup.

From a view of the proceedings in Paris on the subject of croup, we are led to believe that the treatment of that disease is less understood, or less successful there than in the United States. This opinion is grounded more particularly on a perusal of two pamphlets published lately by Mr. C. F. Caron, chief-surgeon of the Cochin-Hospital. One of these is entitled *Programme d'un prix relatif à la Tracheotomie, dans le traitement du Croup, &c.* : and the other, *Réponse à Mons. de Montègre, qui, inconsiderément, publie dans la gazette de Santé, dont il se dit le rédacteur, que le concours proposé sur la trachéotomie dans le traitement du croup, serait plus propre à faire du mal que du bien, &c.* 1812.

That our readers may appreciate the discussion contained in these two pieces, we refer them to our preceding article of intelligence, p. 81.

Mr. Caron observes that four years have already passed away, since the examination of these compositions for the imperial bounty. No better mode of practice exists than before. The croup continues its ravages, and is as fatal as ever. Indeed, he states it as being more alarming, by reason of the dangerous nature of some of the new prescriptions employed. Under these impressions, and with the desire of finding more successful remedies, he proposes a further competition.

Considering that medicine does not possess a single remedy, suggested by the late prize-discussion that is worthy of the smallest confidence, Mr. C. solicits the attention of the medical world to two special points of practice. The one is the employment of ammoniacal gas in croup, for the purpose of dissolving the inspissated mucus which lines the trachea. For this purpose it is to be diffused through the air, and inhaled by respiration, or mixed with some fluid and taken frequently into the mouth, that it may thereby penetrate the lungs with the breath. The other expedient which he strongly recommends, is tracheotomy, performed by cutting longitudinally four cartilaginous rings, and taking out

through the opening, any foreign body that may be lodged within the wind-pipe. This operation he recommends as proper, safe, and efficacious. (For curative means see our vol. 12, p. 196 and 247, and vol. 13, p. 249.)

What will our American physicians think of such projects in this age of the profession? Doubtless they will consider them strange; and probably the more so, when they are informed that Mr. C. announces his intention of proposing a competition for a prize to be affixed by himself, for ascertaining from all classes of practitioners, the result of tracheotomy in curing the croup. And for the purpose of settling this question, he encourages them to make a bold and frequent performance of the operation, which he conceives to be free from the apprehension of any unpleasant accident.

It appears that the weight of the faculty is opposed to his project; and that particularly Mr. Montégre, the successor to Mr. De Saint Ursin, as editor of the *Gazette de Santé*, has excited his warmest indignation, by the opinion he (Mr. M.) has given that the competition, if carried into effect, would be productive of more mischief than benefit.

The author, Mr. C. in each page of his answer, in each point of the controversy, we are sorry to observe, discloses much invidiousness against the late decision of the faculty, in the adjudication of the great premium, in which he appears to have been an unsuccessful candidate. He bursts into expressions of unreasonable contempt against celebrated and venerable names; and descending by personalities much below the dignity of his profession, he exposes himself to the appellation of a scurrilous pamphleteer.

We congratulate our fellow-citizens on the preferable modes of treating the croup in the United States, by bleeding, warm bath, emetics, blisters, calomel, and a course of proceeding that most practical men very well understand. For Mr. Bayley's treatise on the croup, see our vol. 12, p. 331 and seq. And for Prof. Middleton's letter on the same disease, see our vol. 14, p. 345 and seq.

Medical Lectures, &c.

COLUMBIA COLLEGE.

THE lectures on the different branches of medicine in Columbia College, will commence on the second Monday in November, according to the following arrangement:

Anatomy, Physiology, and Pathology, by DR. W. POST.

Practice of Physic, by DR. HAMERSLEY.

Institutes of Medicine, by DR. OSBORNE.

Chemistry, and Legal Medicine, by DR. STRINGHAM.

Midwifery, &c. by DR. BUCHANAN.

Principles, and Practice of Surgery, by DR. MOTT.

The Clinical Instruction of the New-York hospital will be conducted by DRS. HAMERSLEY, OSBORNE, and POST.

COLLEGE OF PHYSICIANS & SURGEONS.

THE Session will be opened by an Address from the Vice President of the College, DR. BENJAMIN DE WITT.

DR. JOHN AUGUSTINE SMITH, the Professor of *Anatomy, Surgery, and Physiology*, will give a complete course of Anatomical Demonstrations, connected with Physiology, and will illustrate his Surgical lectures, by performing the various operations in the presence of his class.

The Lectures on the *Theory and Practice of Physic and Clinical Medicine*, will be delivered by DR. DAVID HOSACK, the Professor of those branches; and, for the purpose of exhibiting a full view of the numerous subjects which they embrace, he will meet his class daily, throughout the session.

The same gentleman, having been appointed Lecturer on *Midwifery* and the *Diseases of Women and Children*,

will, at a separate hour, deliver a course of Lectures on those branches.

Dr. Wm. James Mac Neven, the Professor of *Chemistry*, will unfold the principles of that science, particularly in its relations to medicine and the arts; and, with the advantages of an extensive apparatus and laboratory, he will afford to the students an opportunity of becoming experimentally acquainted with the numerous operations of chemistry.

The *Institutions of Medicine* and the *Materia Medica* will be delivered by Dr. Benjamin De Witt, recently elected the Professor of those branches.

The Spring Session will commence on the third Monday of April next.

The Lectures on *Natural History* will be delivered by Dr. Mitchill, and will be illustrated by the ample and rich cabinet of mineralogy and geology attached to the college, and an extensive museum to which the students can at all times have access.

MEDICAL INSTITUTION.

In conformity to the original division of the scientific department of the institution, the following arrangements are continued, viz.:

Institutes of Medicine, Practice of Physic, and Forensic Medicine, Nicholas Romayne, M. D. John Watts, M. D.

Materia Medica, and Mineralogy, Archibald Bruce, M. D.

Anatomy, Physiology, and Surgery, Valentine Seaman, M. D. Thomas Cock, M. D.

Chemistry and Natural Philosophy, Mr. John Griscom.

Midwifery and the Diseases of Women and Children, Robert Bayard, M. D.

The Clinical lectures will be delivered by Professor Seaman, at the New-York Hospital, where students will have greater opportunities of witnessing and examining medical and surgical cases than are offered by any similar establishment in the United States.

The Lectures in the Institution will commence on

Monday the 2nd of November next, at the establishment in Duane Street. The President of each incorporated Medical Society in the state, is authorized and invited to designate one student of medicine, of good character, to attend the different classes of the Institution free of expense. The fees for other Students, who may incline to attend all the classes of the Institution will be limited to forty dollars, but should any student be desirous to attend one class only, the fee will be fifteen dollars.

Students who shall merit the consideration of their Professors and of the Institution, shall be invested with academic honours, under the authority of the President and Trustees of Queen's College.

At the Annual Commencement of Queens' College, N. Jersey, held Sept. 29, 1812, the degree of Doctor of Medicine was conferred upon the following gentlemen, who had previously passed their examinations, and submitted their Inaugural Dissertations to the Faculty of Medicine, viz.

David R. Arnell, of Orange County, New-York, *on secretion and absorption.*

John C. Cheesman, of New-York, *on the Medical Properties of Gold.*

Samuel M'Cauley, of New-York, *on Hernia.*

Samuel Jackson of Orange County, *on Dropsy.*

Dr. Ricketson, proposes to deliver the following course of Medical Instruction, in Troy:

1. Materia Medica, and Practice of Physic.
2. Anatomy, Surgery, and Midwifery, with the Diseases of Women and Children.

Practitioners and Students, who may attend, are requested to be in town by the 3d of 11th Mo. (Nov.) next; on which day, at 12 o'clock, he will commence with an Introductory Lecture, which will be open for all who wish to attend.

The terms for attendance will be moderate; and exertions will be made that board may be had at a low rate.

Troy, 9th Mo. 14th, 1812.

MEDICAL INSTRUCTION IN THE NEW-YORK HOSPITAL.

Any student of medicine, upon paying to the treasury ten dollars, may receive a ticket, entitling him to visit and see the practice of the house for one year, subject to the regulations of the hospital. The present clinical professors, for the practice of medicine, are Drs. Hamersley and Osborne. Dr. Seaman, one of the surgeons of the hospital, also delivers Clinical Lectures on Surgery, during the winter season, having the use of the theatre for that purpose. The select and extensive collection of medicinal and scientific books of that institution, affords the best opportunity to students for their improvement, in all the important branches of their profession.

OFFICERS OF THE RHODE-ISLAND MEDICAL SOCIETY.

Dr. Amos Throop, President.

Drs. William Bowen, and Jonathan Easton, Vice-Presidents.

Wm. Turner, Corresponding Secretary.

John Mackie, Recording do.

Thomas M. Barrows, Treasurer.

Wm. C. Bowen, Cabinet-keeper and Librarian.

Pardon Bowen, m. d. Levi Wheaton, m. d. Solomon Drown, and Thomas Nelson, Censors for the Northern Districts.

Drs. David King, Edmund Thos. Waring, Joseph Comstock, and Enoch Hazard, Censors for the Southern District.

Henry E. Turner, Orator for the next Annual Meeting

Observations on the Weather and Diseases in the Spring of 1812, in the city of New-York. By Dr. Ricketson.

The first spring month was mostly cold, the mercury often falling to 35, even at mid-day. Much of it was

hazy, with a great chilliness in the air which was very unpleasant to valetudinarians.

Most of the second spring month was also unusually cool for the season, being nearly as much so as the preceding one often is. Considerable rain fell, but very little in showers, so common at this season. The prevailing winds, both in this, and the preceding months were from the N. and E.

The 4th of the last spring month was sleety all day, which, it is said, was a snow of considerable depth in the N. W. part of this state. The temperature of this month was generally cool, with more or less rain for eight days successively, about the middle of it, with N. E. wind.

With the commencement of spring, sickness increased, particularly the diseases of pneumonia, quinsey, catarrh, and phthisis pulmonalis.

At no time, for many years, have pleurisies and peripneumonies been more prevalent and attended with more violence, and mortality, than this spring.

Whilst some cases were attended with inflammatory symptoms, requiring the depleting mode of treatment, others early exhibited those of a typhoid nature, and demanded a more sparing use of the lancet, with sudorific remedies, and occasionally, those of a cordial nature, when the pulse and other circumstances required them. There was a great disposition in pneumonic affections, through the winter, as well as the spring, to assume a typhoid type.

Although the pneumonia typhoides is not so common in this climate as that with Synocha, yet the former is recorded to have prevailed with great malignancy, particularly on Long-Island, in the year 1749; and an epidemic, I apprehend, of this kind, has prevailed with great mortality this spring, in various parts of the country, particularly in Westchester and Dutchess counties, in this state, and in the western part of Connecticut.

Catarrhal affections, and the croup, were among the prevalent diseases of the season, and proved fatal to many children.

Consumptions, the consequence of hereditary predisposition, and of the preceding and other diseases, greatly swelled the bills of mortality.

In the latter part of the spring, there occurred many

cases of intermittent fever, particularly in the suburbs of the city.

New-York, 6th mo. 1st, 1812.

BIOGRAPHICAL.

At a public sitting of the Faculty of Medicine of Paris, November 27, 1811, in the presence of an immense concourse of people, the President, Baron de Percy, delivered an historical eulogium on the late M. Sabatier, *Professor of the Faculty of Medicine, chief consulting surgeon of the Emperor and King, Member of the Legion of Honour and of the Institute, Member of all the principal Academies of Europe, &c.*

Sabatier had been a great and a good man. He was the son of a much esteemed surgeon, at whose death none but himself could support his family; and as he was too young for reception and licence for practice, the College, by an honourable exception admitted him to that privilege, his deficiency of age being sufficiently replaced by his great talents and acquirements. With the most steady habits of industry, he improved himself in all the modern languages and mathematical sciences, and thereby was enabled really to promote in his country, all the branches of the healing art, and more particularly surgery. He thus lived to a great age, full of days and honours, useful to his profession and to his fellow-creatures. It has justly been observed of his death, *Mors palmas numerat et annos.*

With a rare and often sublime eloquence, the author has admirably described his long professional life, and his writings as connected with the improvements, changes and discoveries in his art, and eminently distinguished by his virtues. A more perfect and instructive performance could not be found among those of Thomas, Flechier and Bossuet, the greatest panegyric writers. We notice it as a monumental production, for those who may not have the opportunity of reading it in a foreign language, especially for the rising generation, as a proof that, in this enlightened age, great respect and high honours are paid to a simple and ordinary individual, because useful and virtuous, which formerly seemed to be exclusively imparted to rank, military fame and power.

NOTICE OF PUBLICATIONS.

The Columbian Chemical Society of Philadelphia have in the press the first volume of their memoirs. It is intended to contain about 200 pages; and expectations are entertained that the collection will be interesting to the lovers of science generally.

Professor Benjamin Rush has embodied the Lectures on *Mental Derangement*, which he has delivered during many years in the University of Philadelphia, with the results of his long and successful experience in the treatment of maniacs, in the hospital of that city. We are happy to announce the printing of a new work of the kind from the pen of so great a medical philosopher, and which will no doubt complete the inquiries of Willis, Crighton and Pinell.